

APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

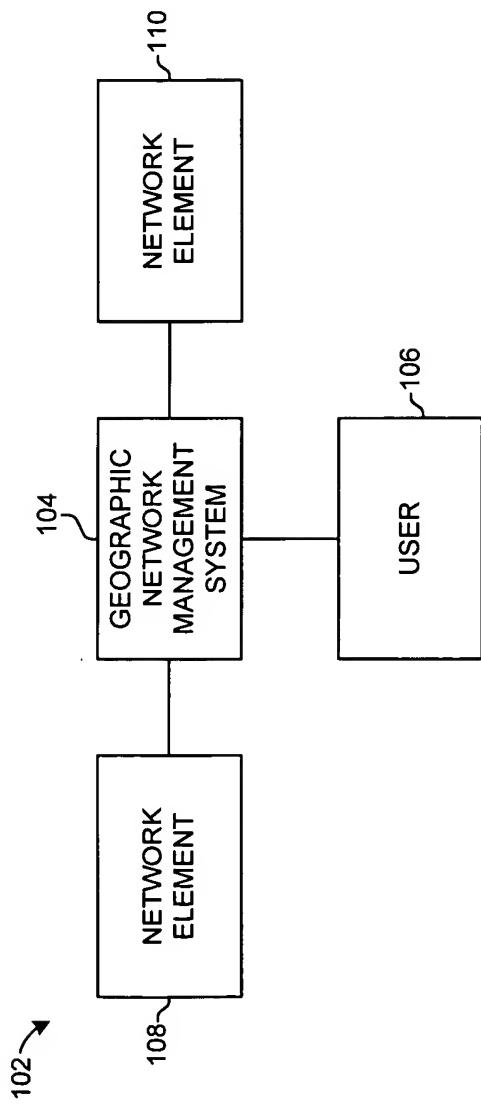


FIG. 1

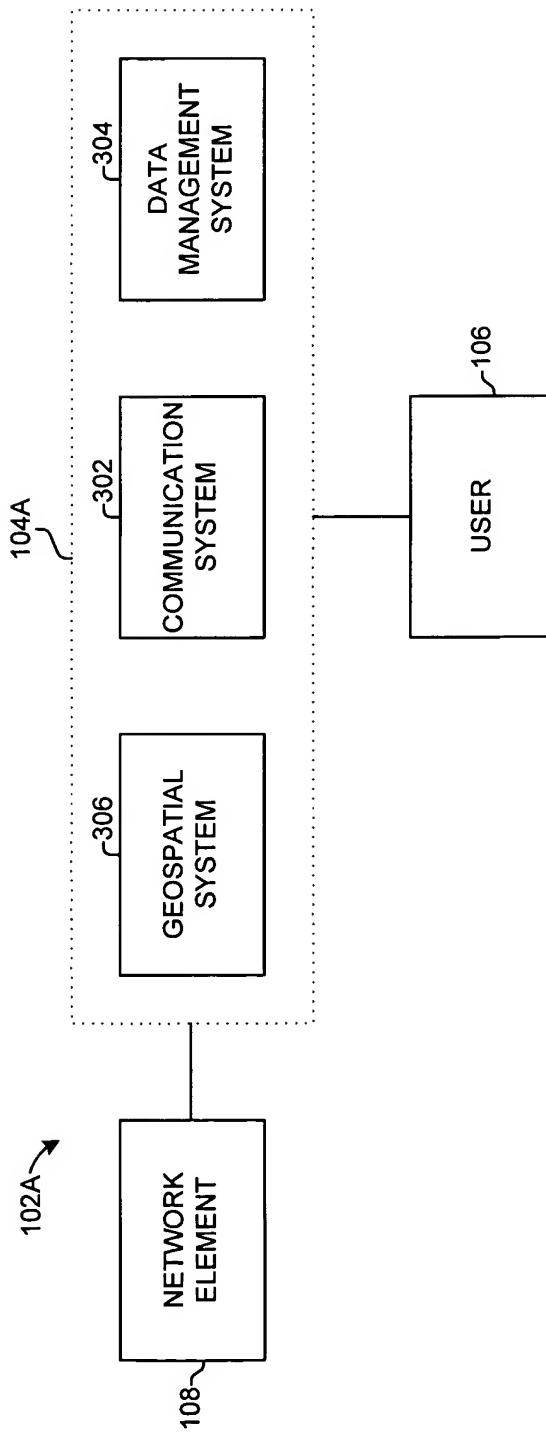
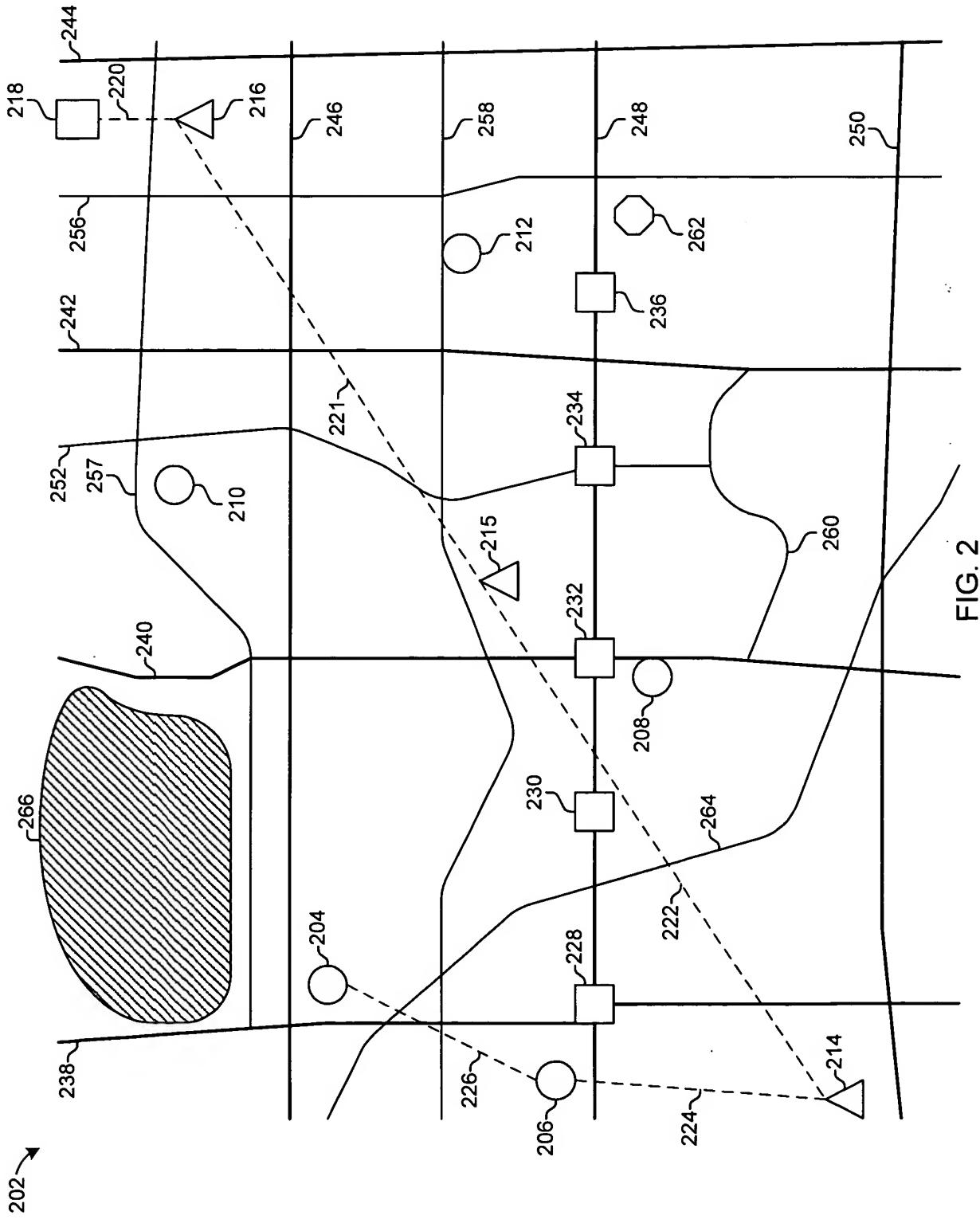


FIG. 3

APPROVED BY DRAFTSMAN	O.G. FIG.
	CLASS SUBCLASS



APPROVED BY DRAFTSMAN	O.G. FIG.
	CLASS SUBCLASS

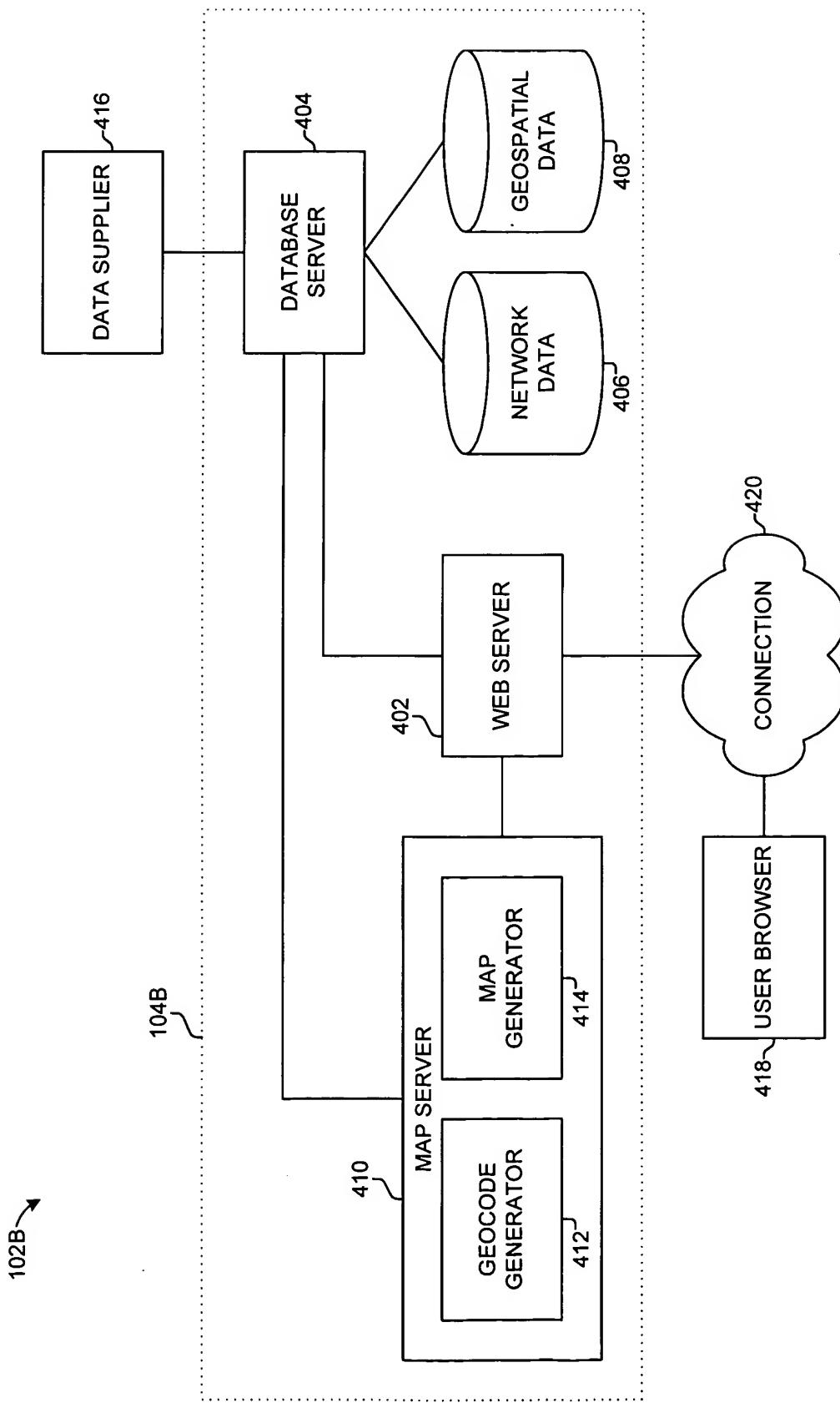


FIG. 4

APPROVED	O.G. FIG.
BY	CLASS SUBCLASS
DRAFTSMAN	

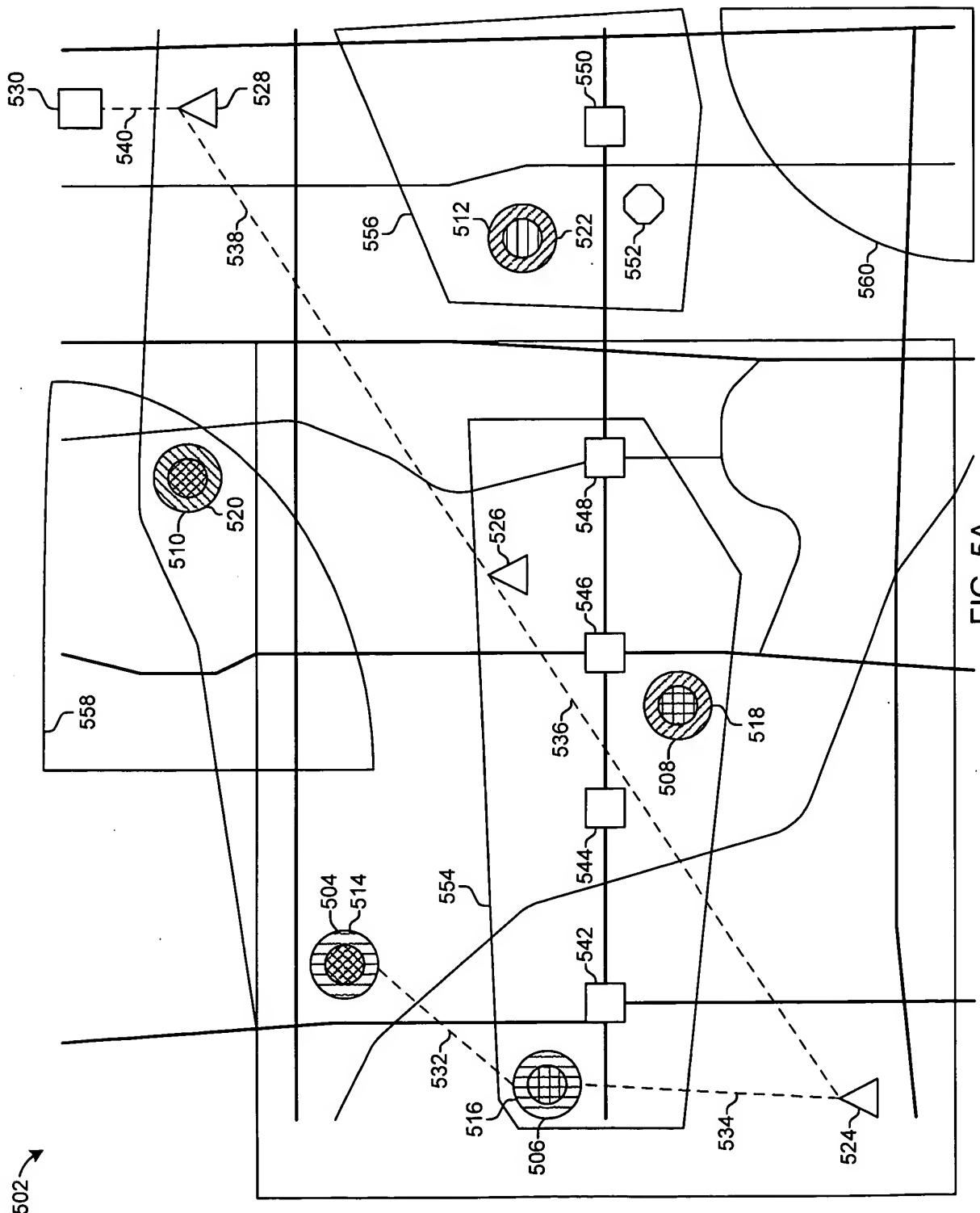
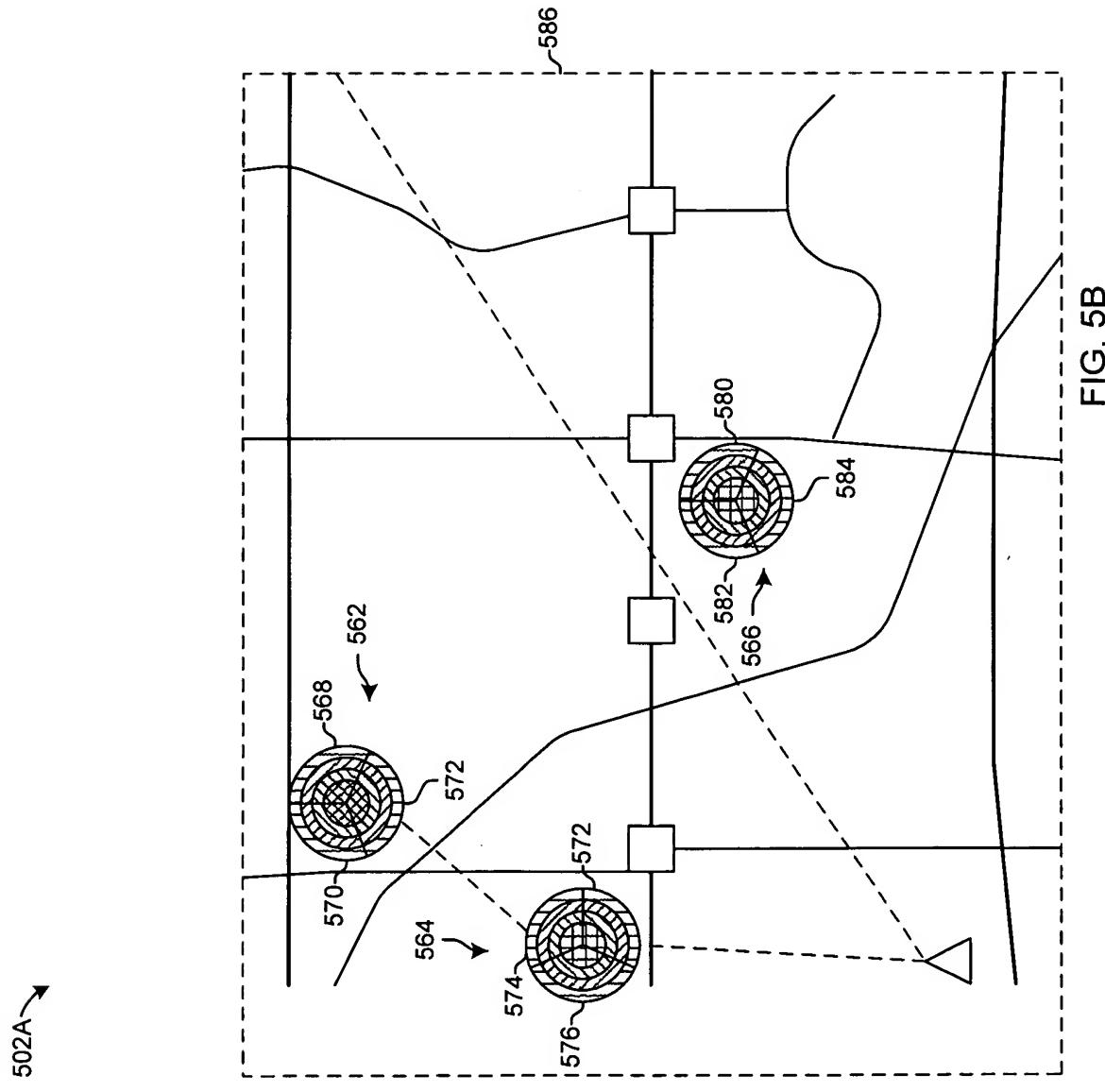


FIG. 5A

APPROVED BY DRAFTSMAN	O.G. FIG.
	CLASS SUBCLASS



APPROVED	O.G. FIG.
BY	CLASS SUBCLASS
DRAFTSMAN	

F D T D F F. M. S. H. E. N. D. O. D. O. T.

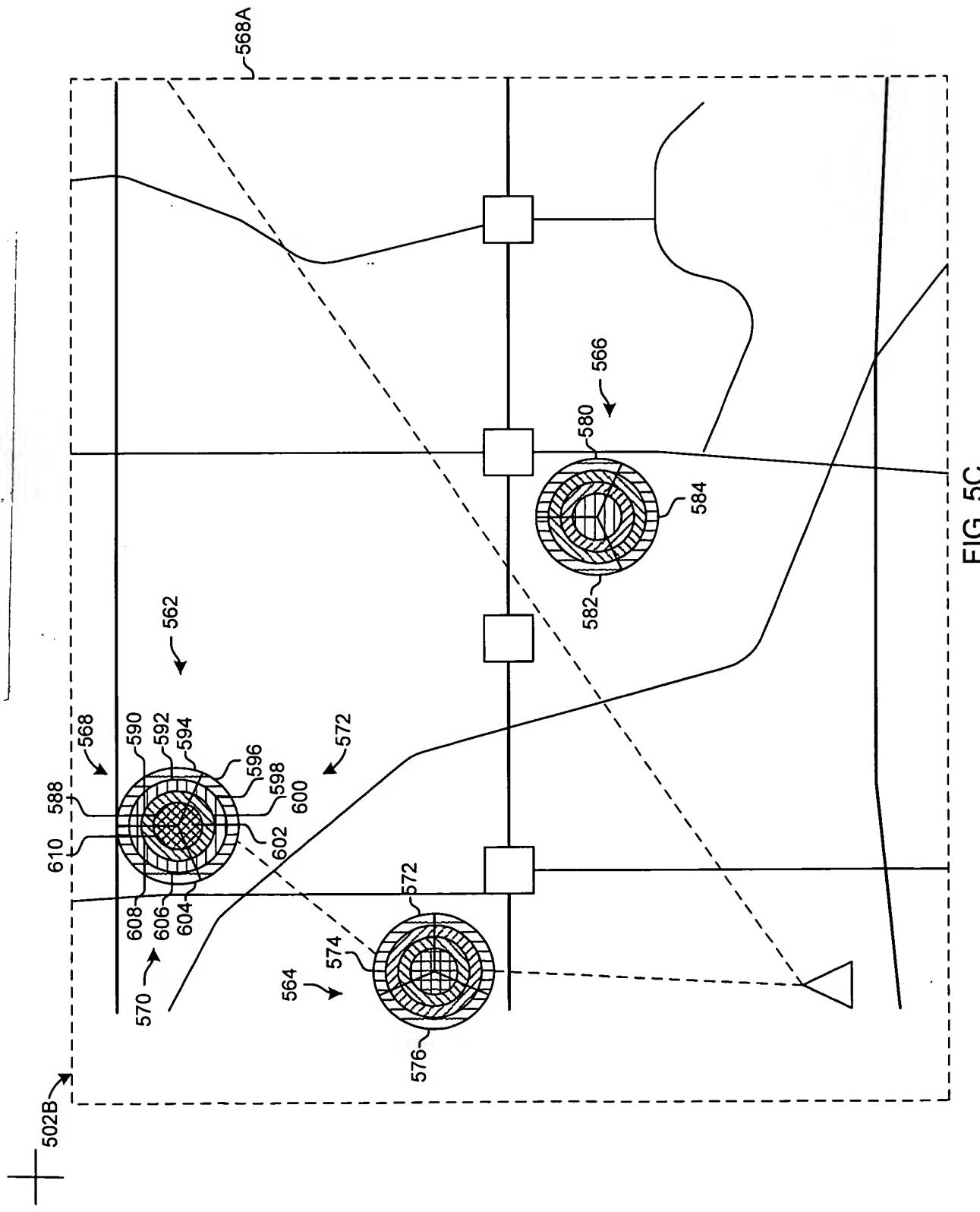
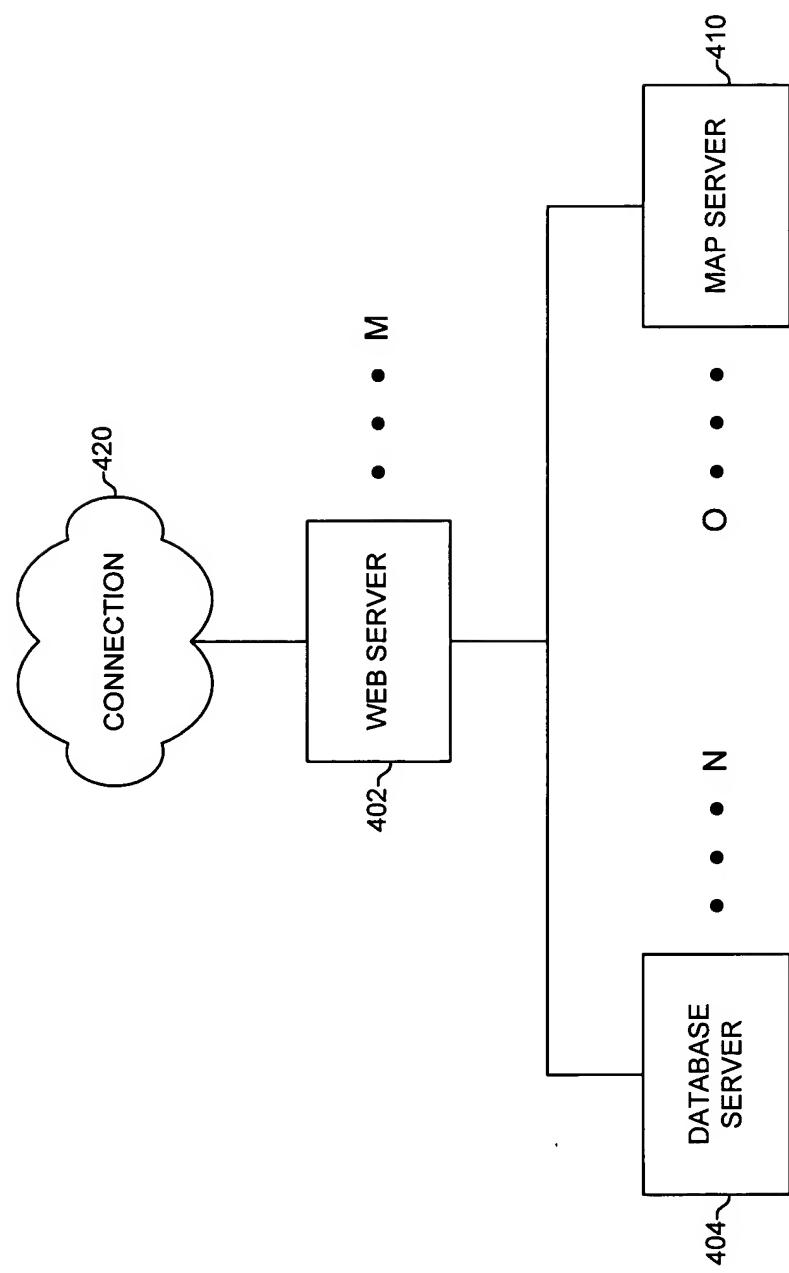


FIG. 6



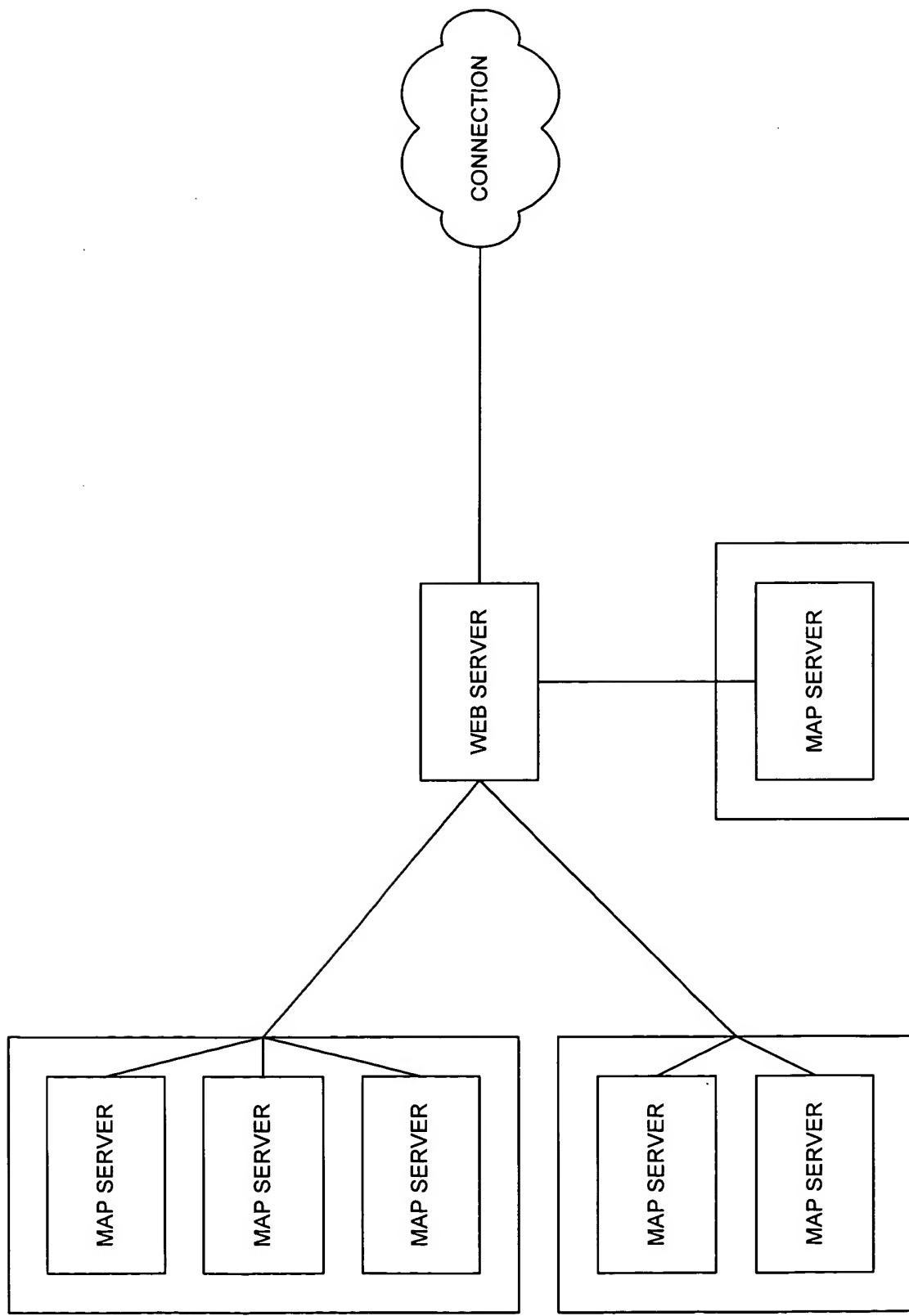


FIG. 7A

APPROVED	O.G. FIG.
BY	
DRAFTSMAN	

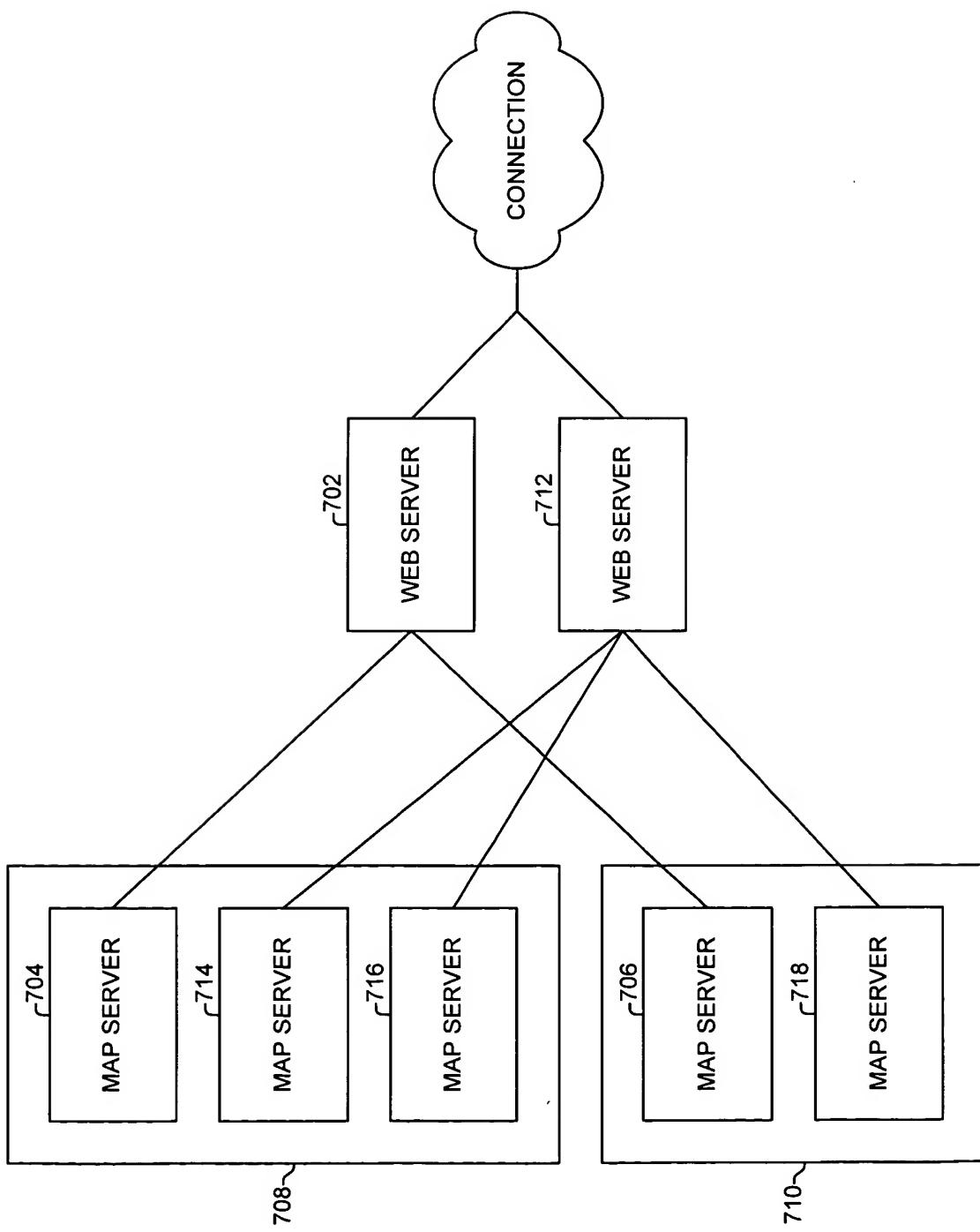


FIG. 7B

APPROVED BY	O.G. FIG.	
DRAFTSMAN	CLASS	SUBCLASS

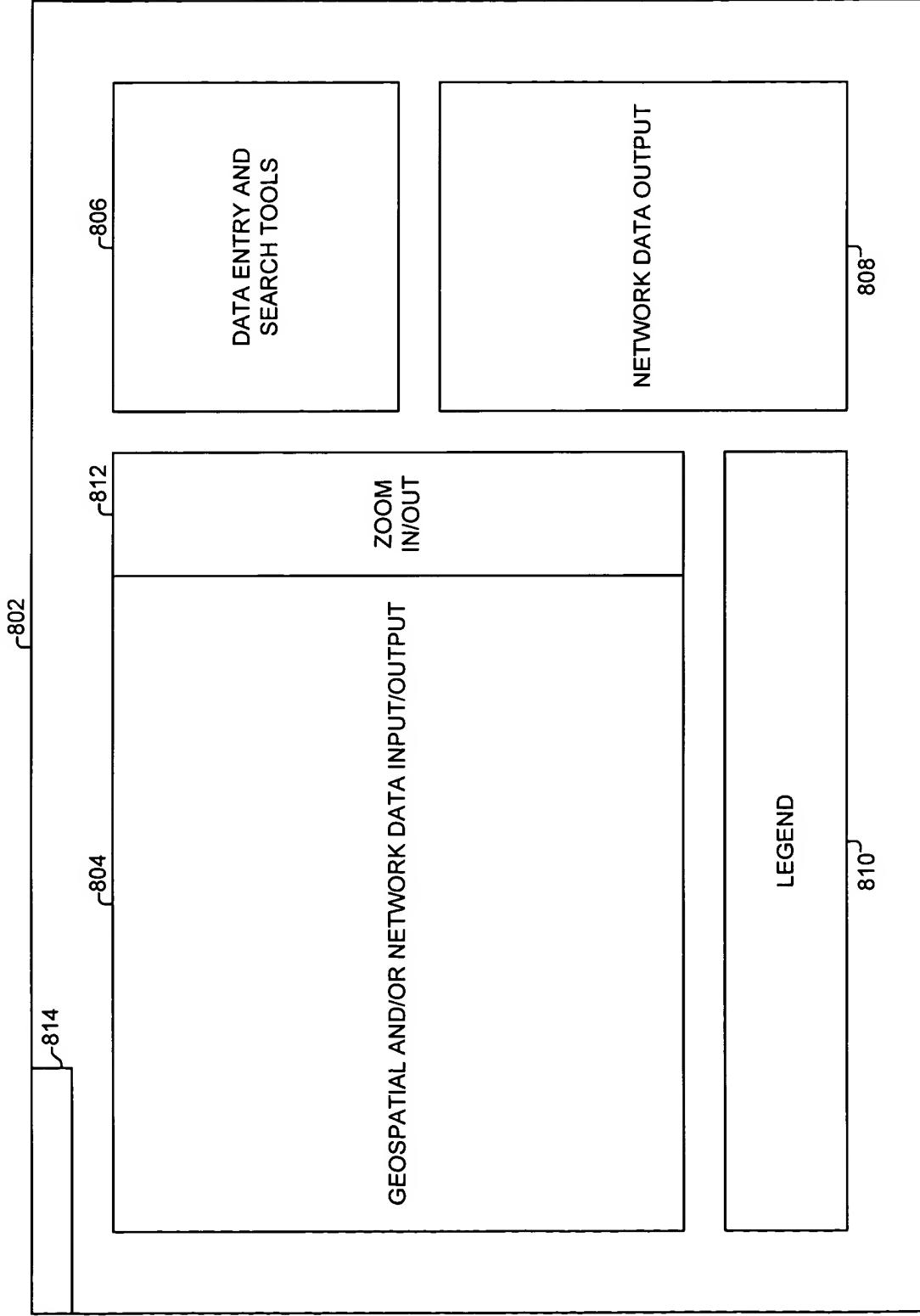


FIG. 8

APPROVED BY DRAFTSMAN	O.G. FIG.
	CLASS SUBCLASS

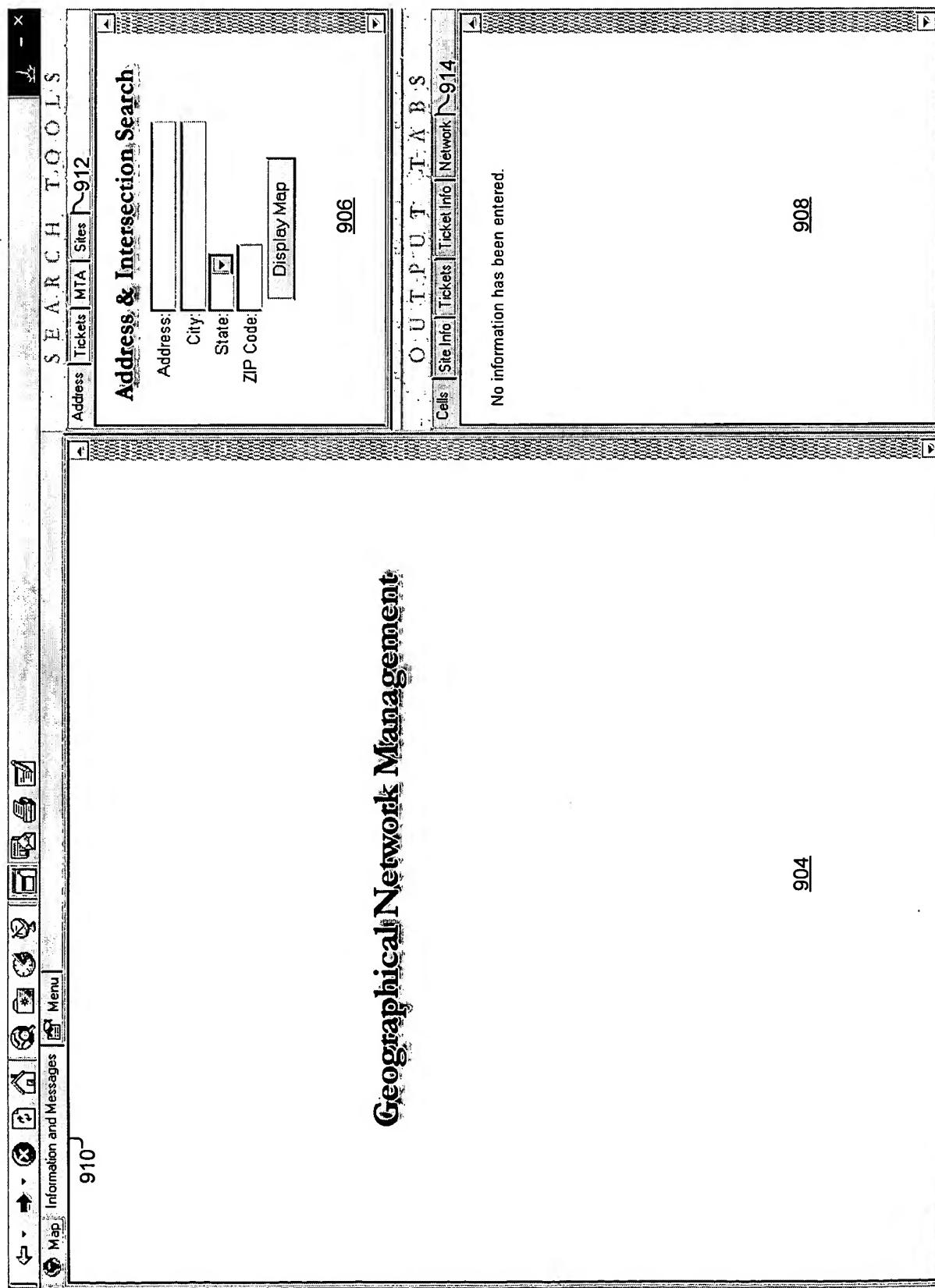


FIG. 9
902
904
908

APPROVED BY	O.G. FIG.
DRAFTSMAN	CLASS SUBCLASS

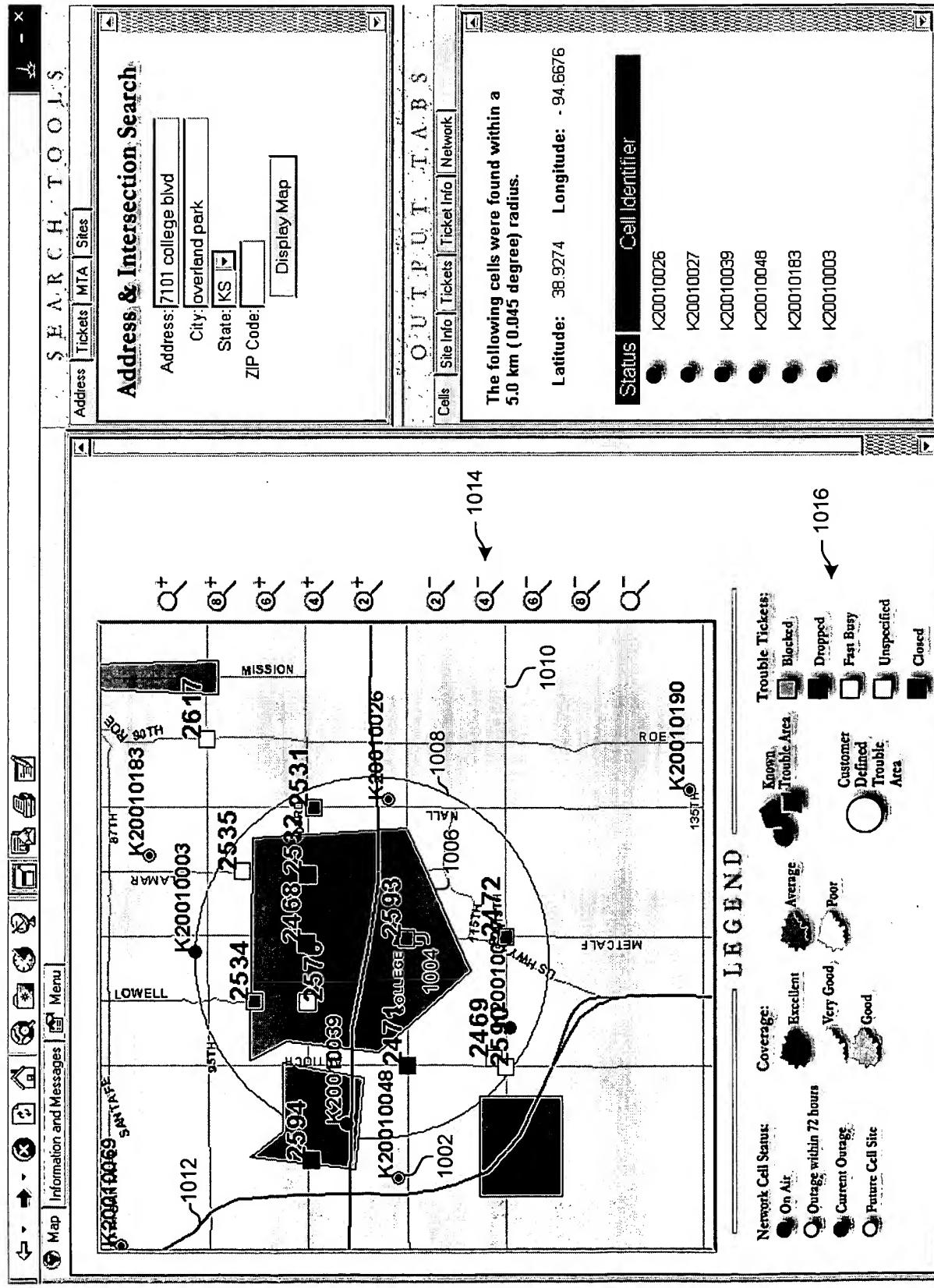


FIG. 10

APPROVED BY DRAFTSMAN	O.G. FIG.	
	CLASS	SUBCLASS

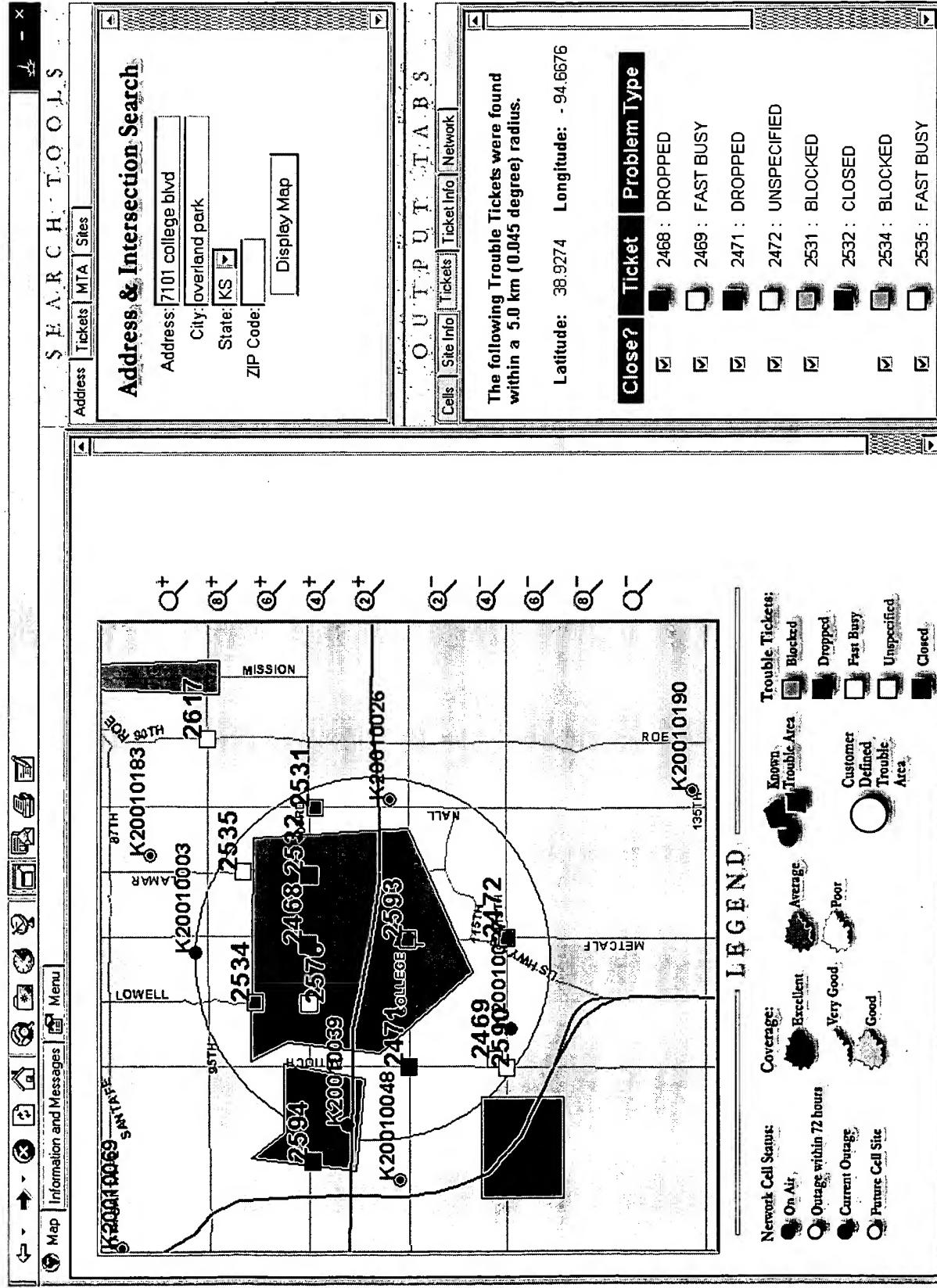


FIG. 11

APPROVED BY DRAFTSMAN	O.G. FIG.	
	CLASS	SUBCLASS

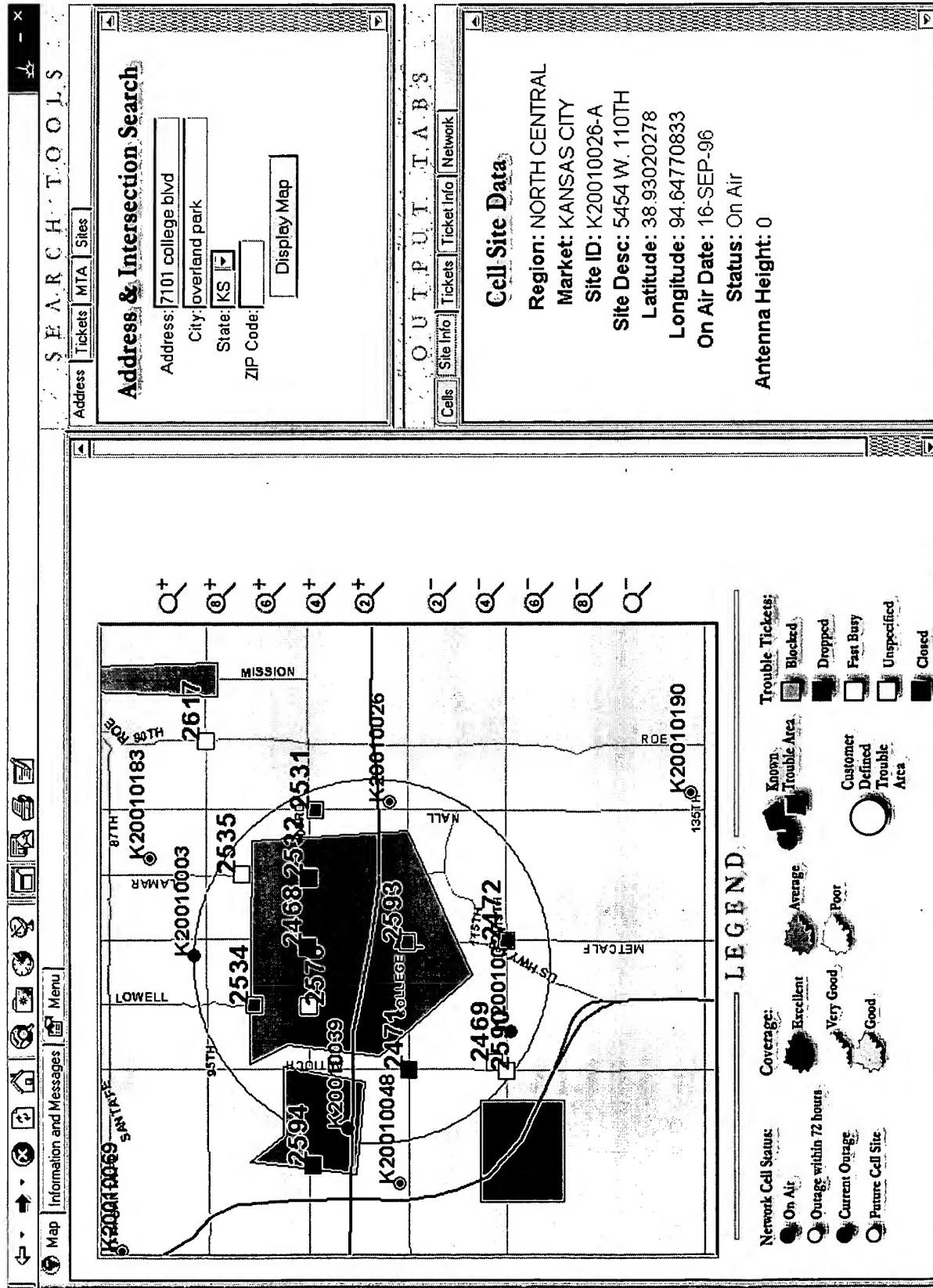


FIG 12

APPROVED	O.G. FIG.
BY	CLASS
DRAFTSMAN	SUBCLASS

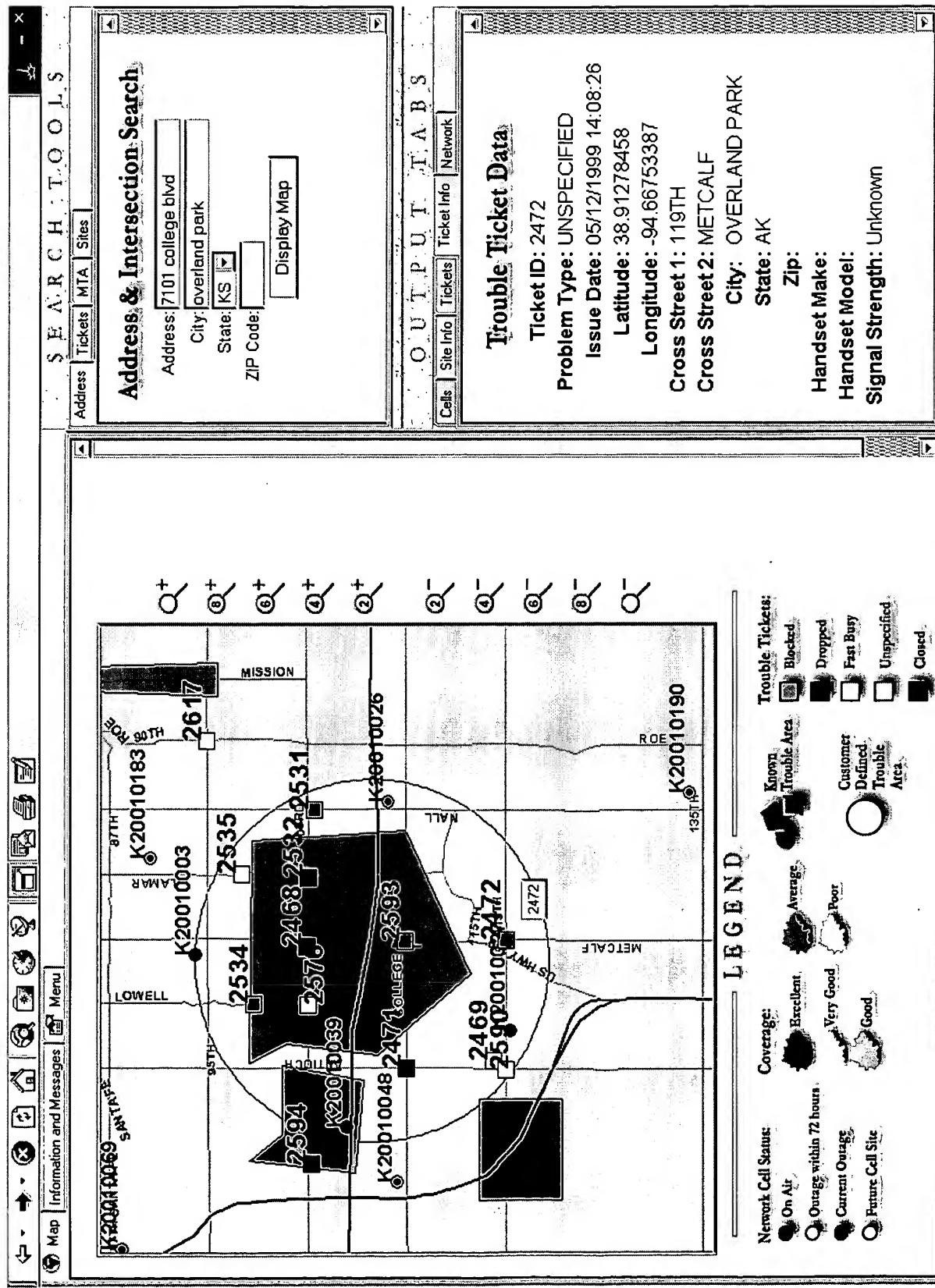
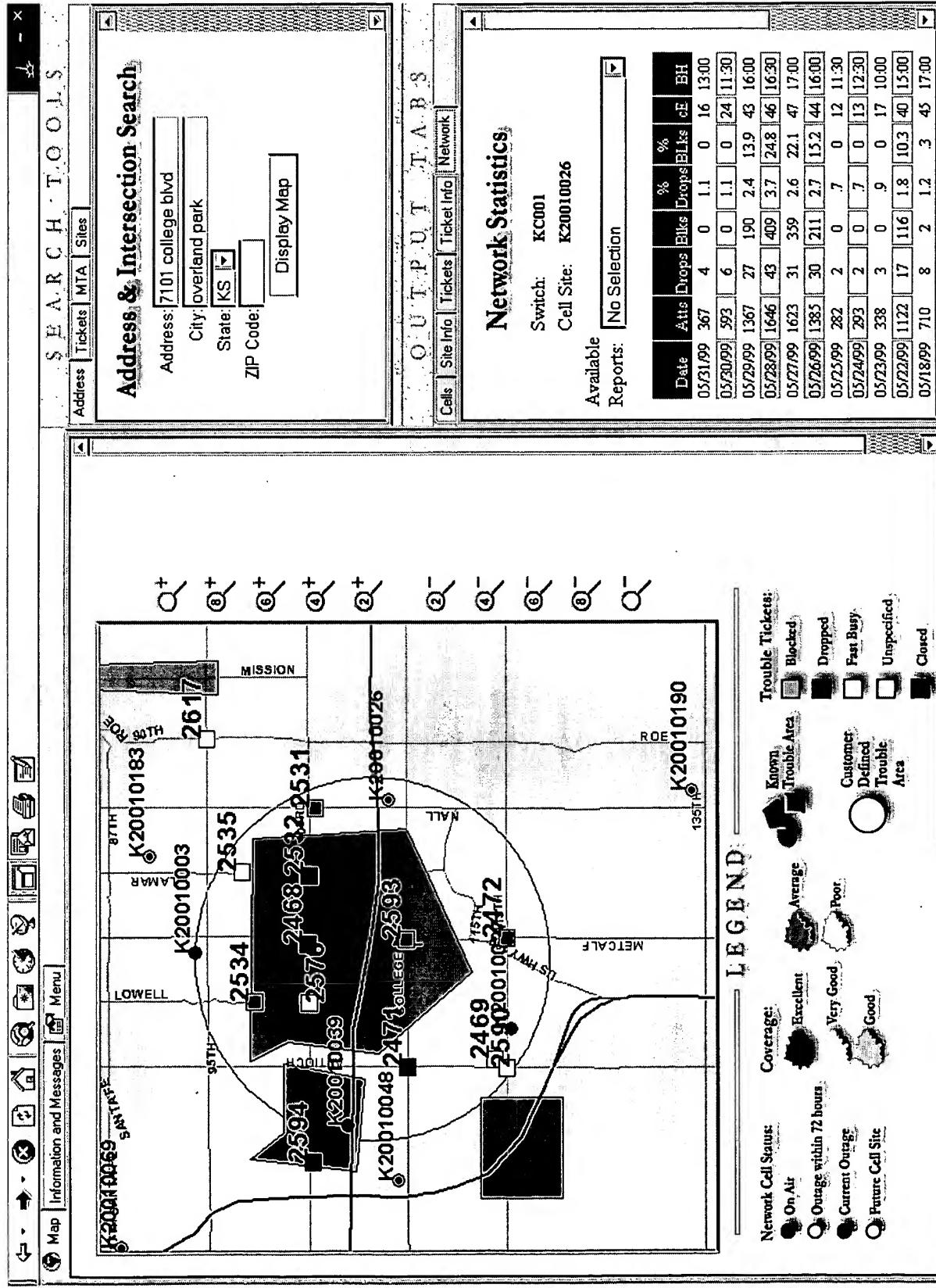


FIG. 13

APPROVED BY	O.G. FIG.
DRAFTSMAN	CLASS SUBCLASS



APPROVED BY DRAFTSMAN	O.G. FIG.
	CLASS SUBCLASS

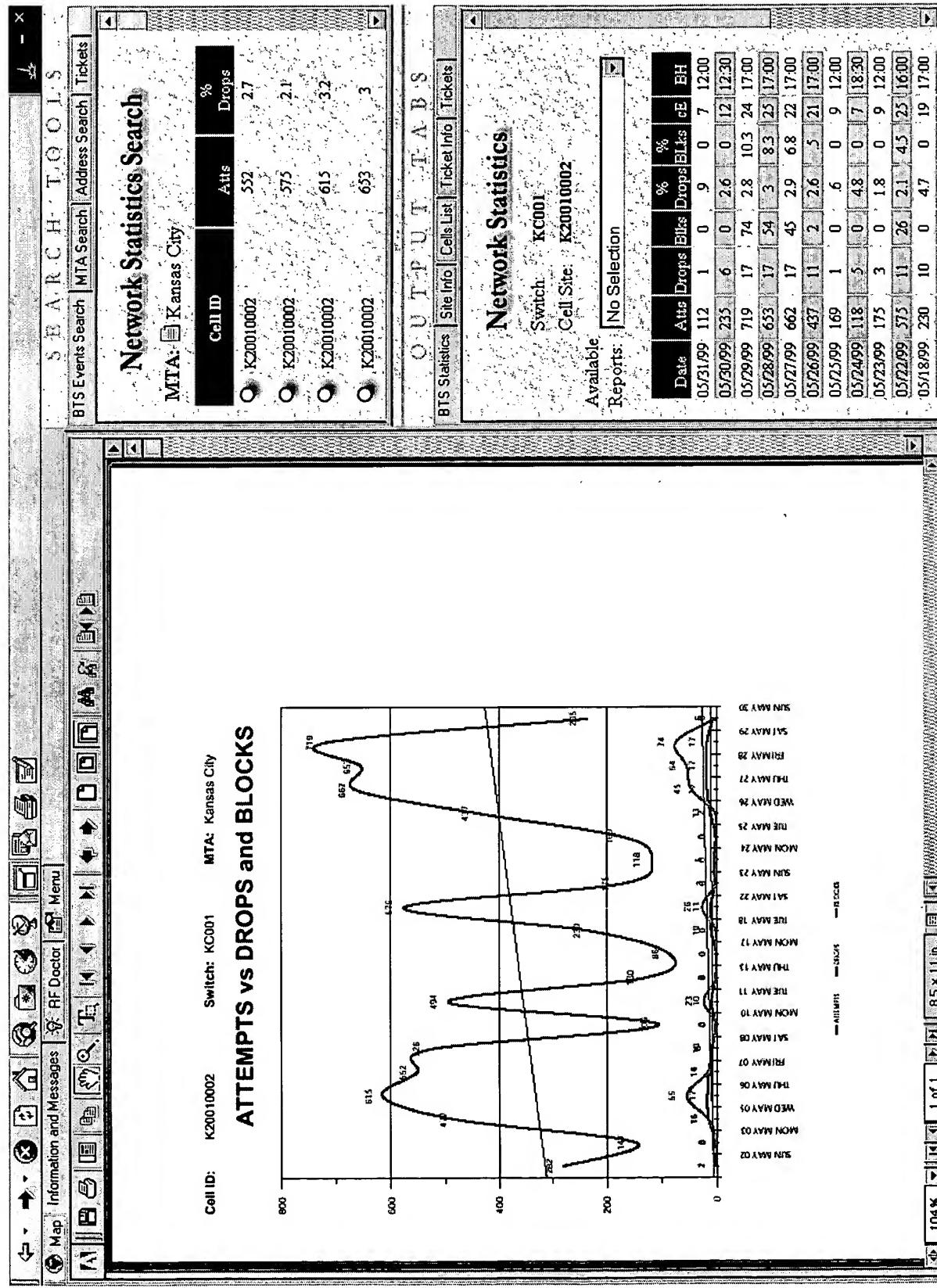


FIG. 15

APPROVED BY DRAFTSMAN	O.G. FIG. CLASS SUBCLASS
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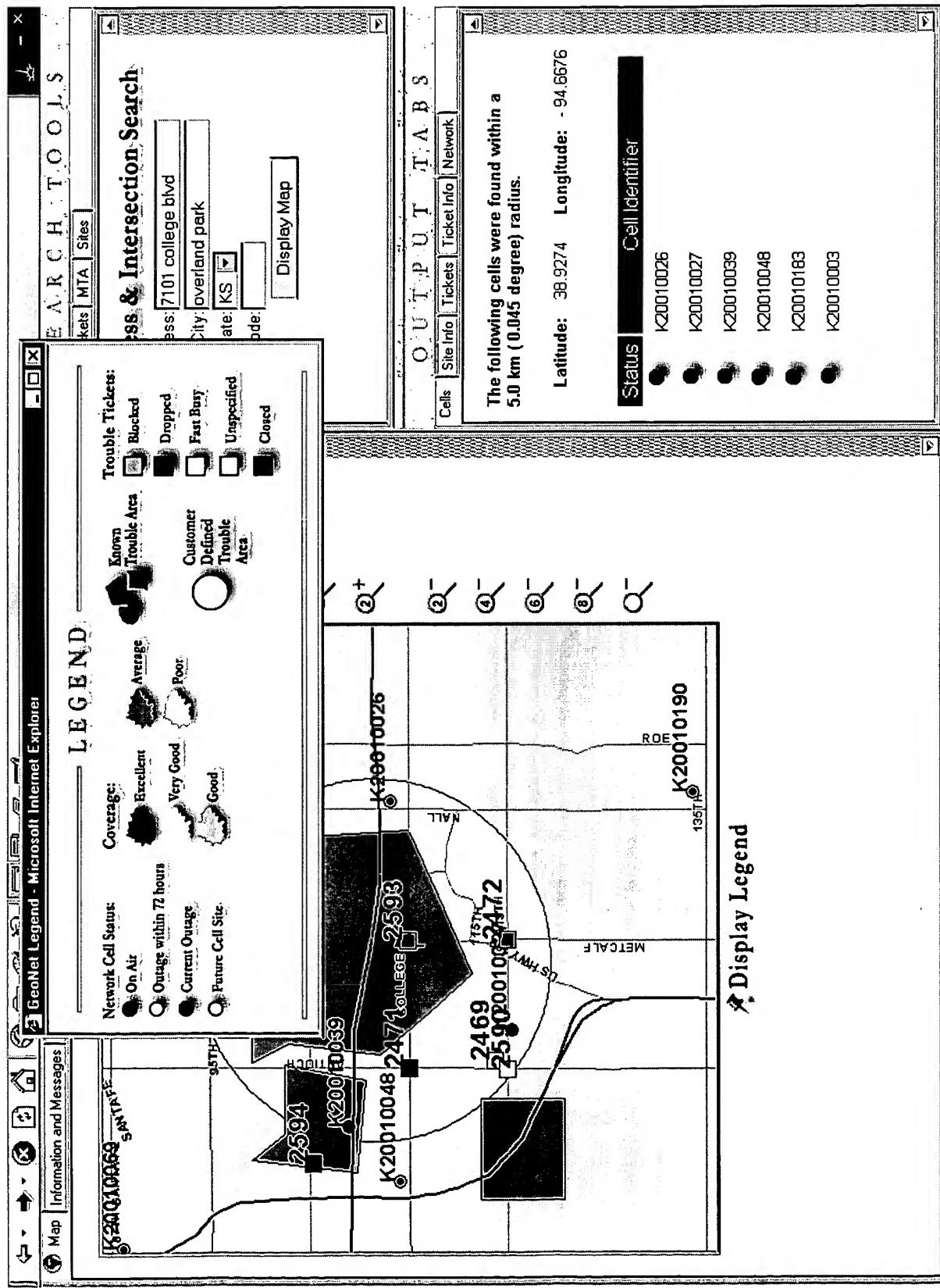


FIG. 16

APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

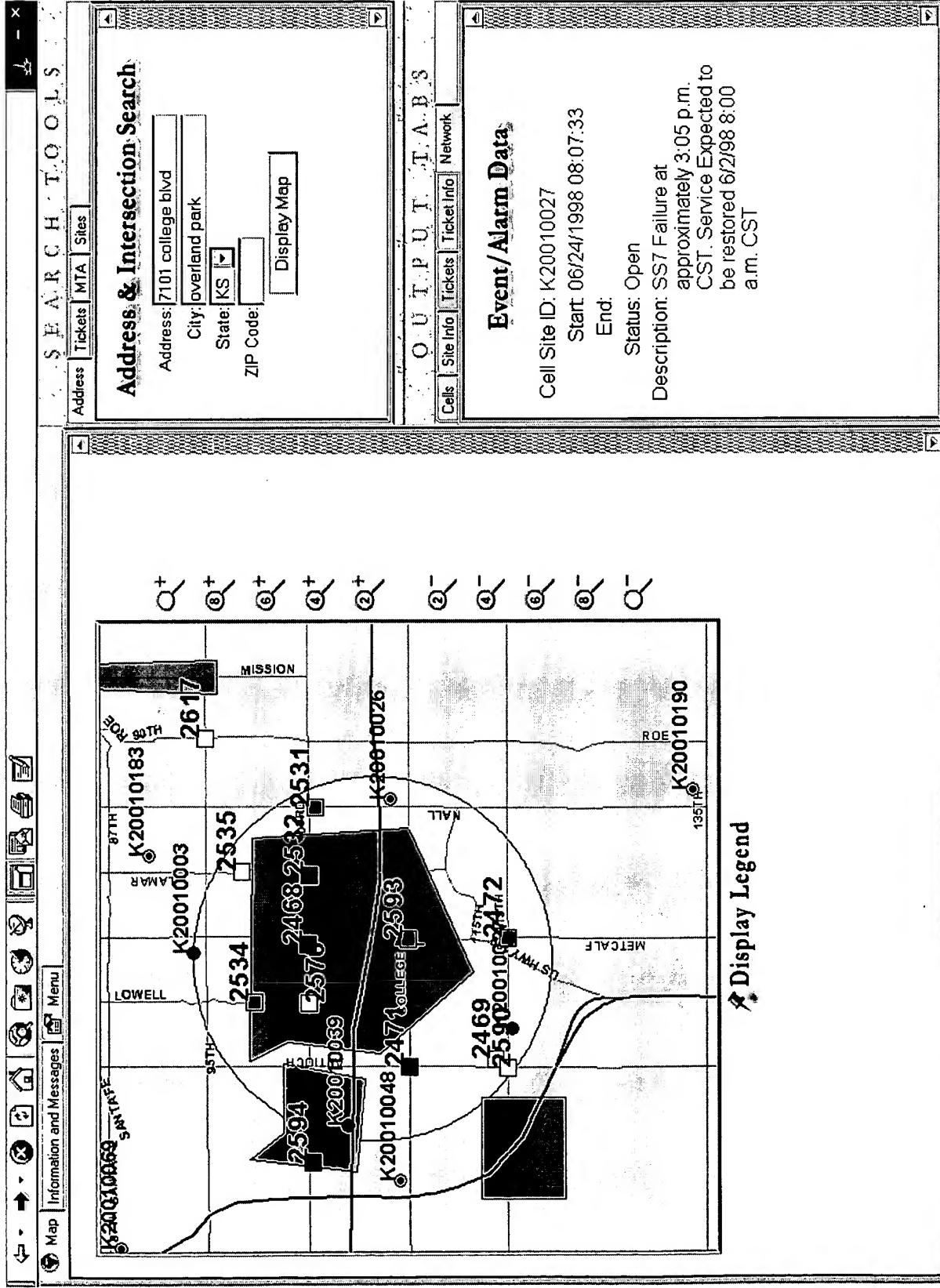


FIG. 17

APPROVED BY DRAFTSMAN	O.G. FIG. CLASS	SUBCLASS
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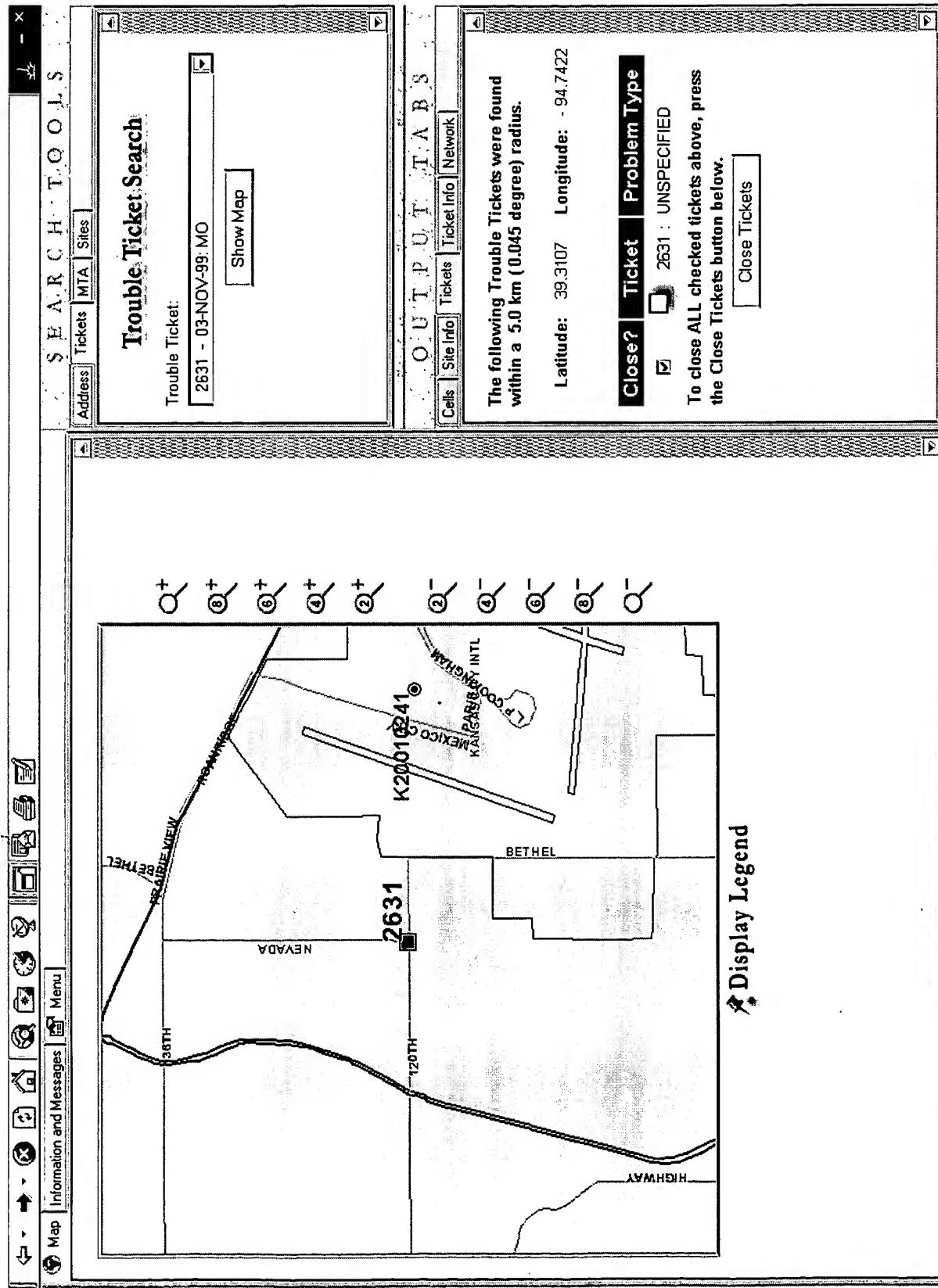


FIG. 18

BY	CLASS	SUBCLASS
DRAFTSMAN		

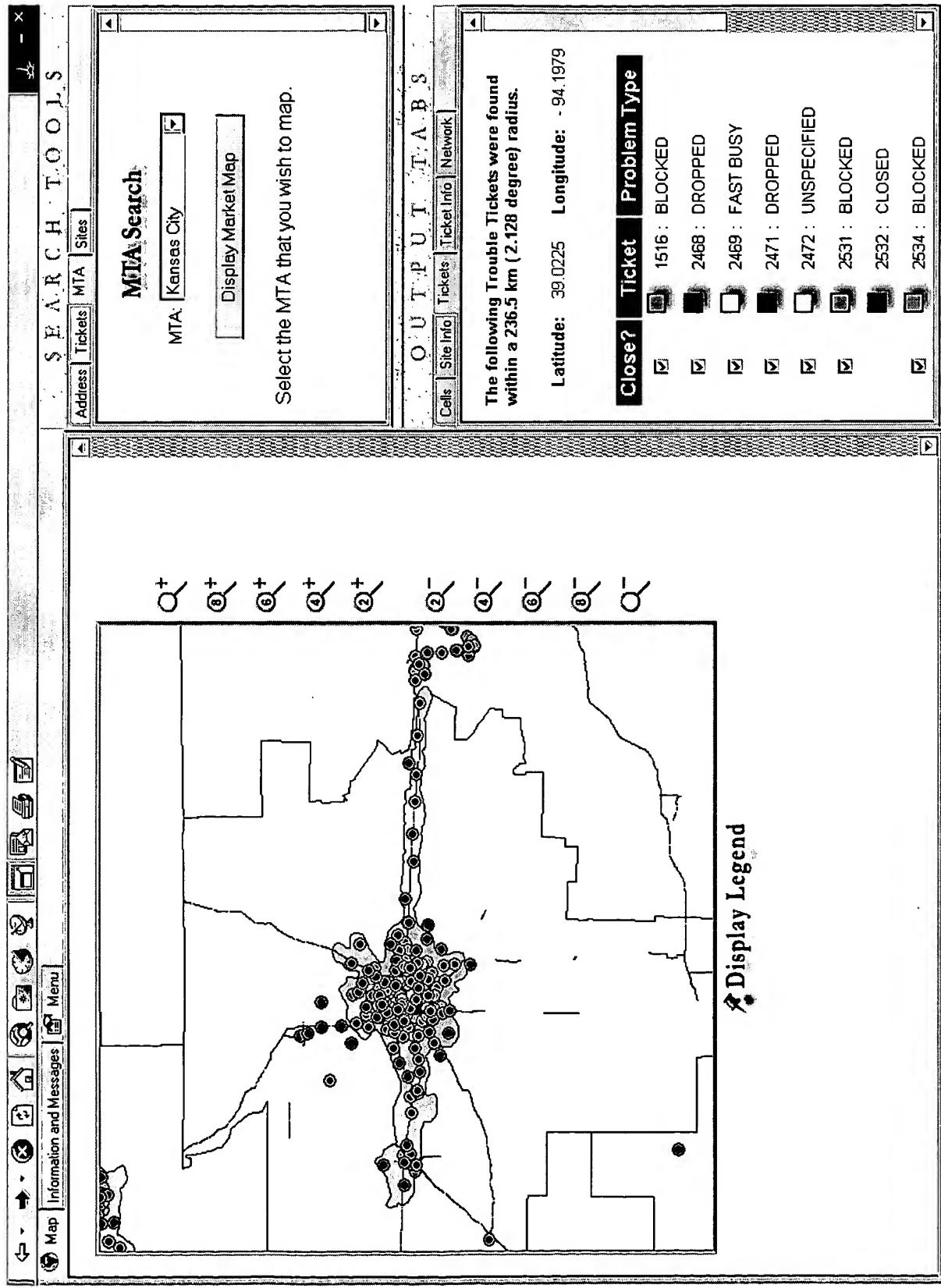


FIG. 19

APPROVED BY	O.G. FIG.
DRAFTSMAN	CLASS SUBCLASS

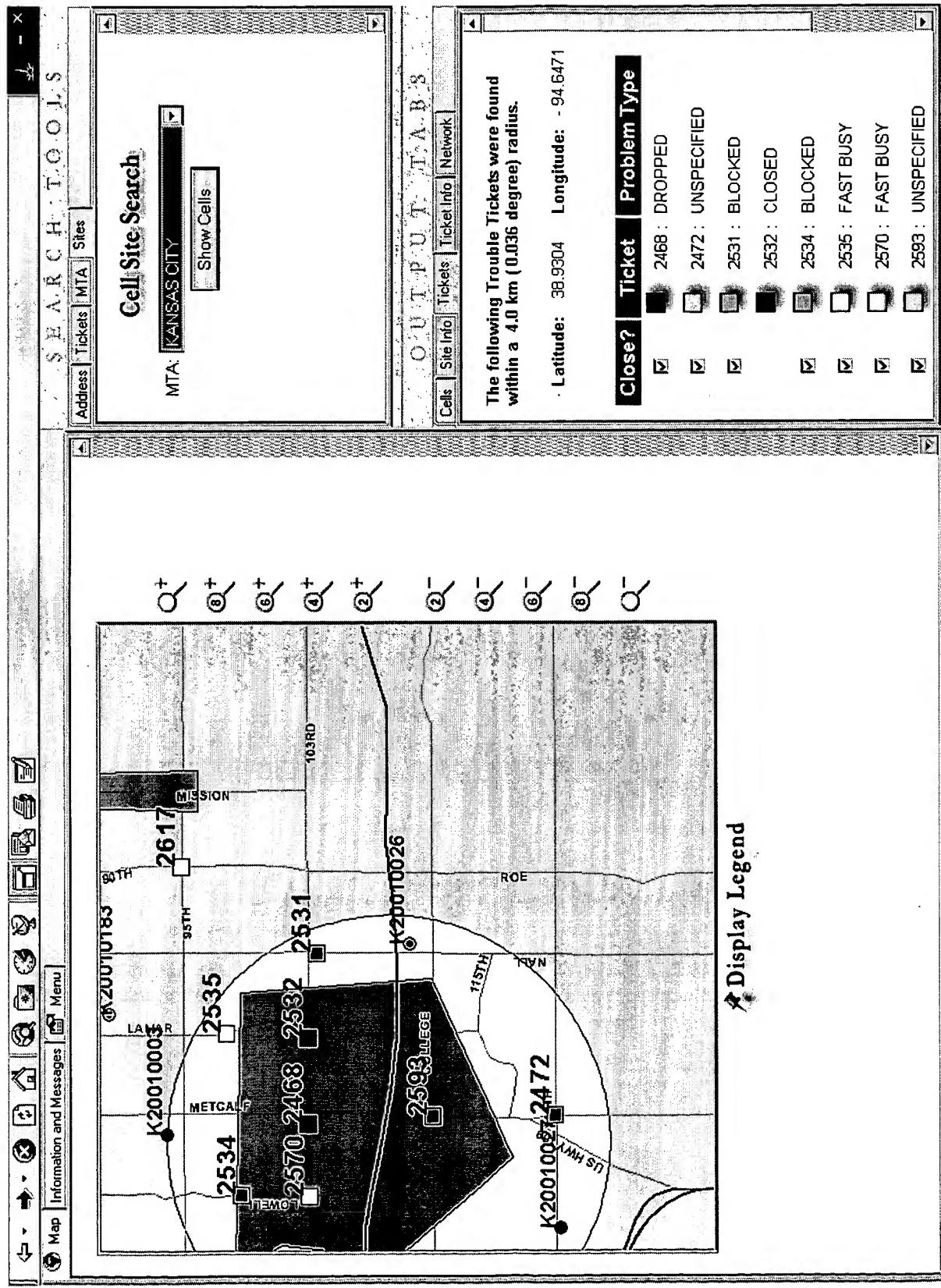


FIG. 20

APPROVED BY	O.G. FIG.
DRAFTSMAN	CLASS SUBCLASS

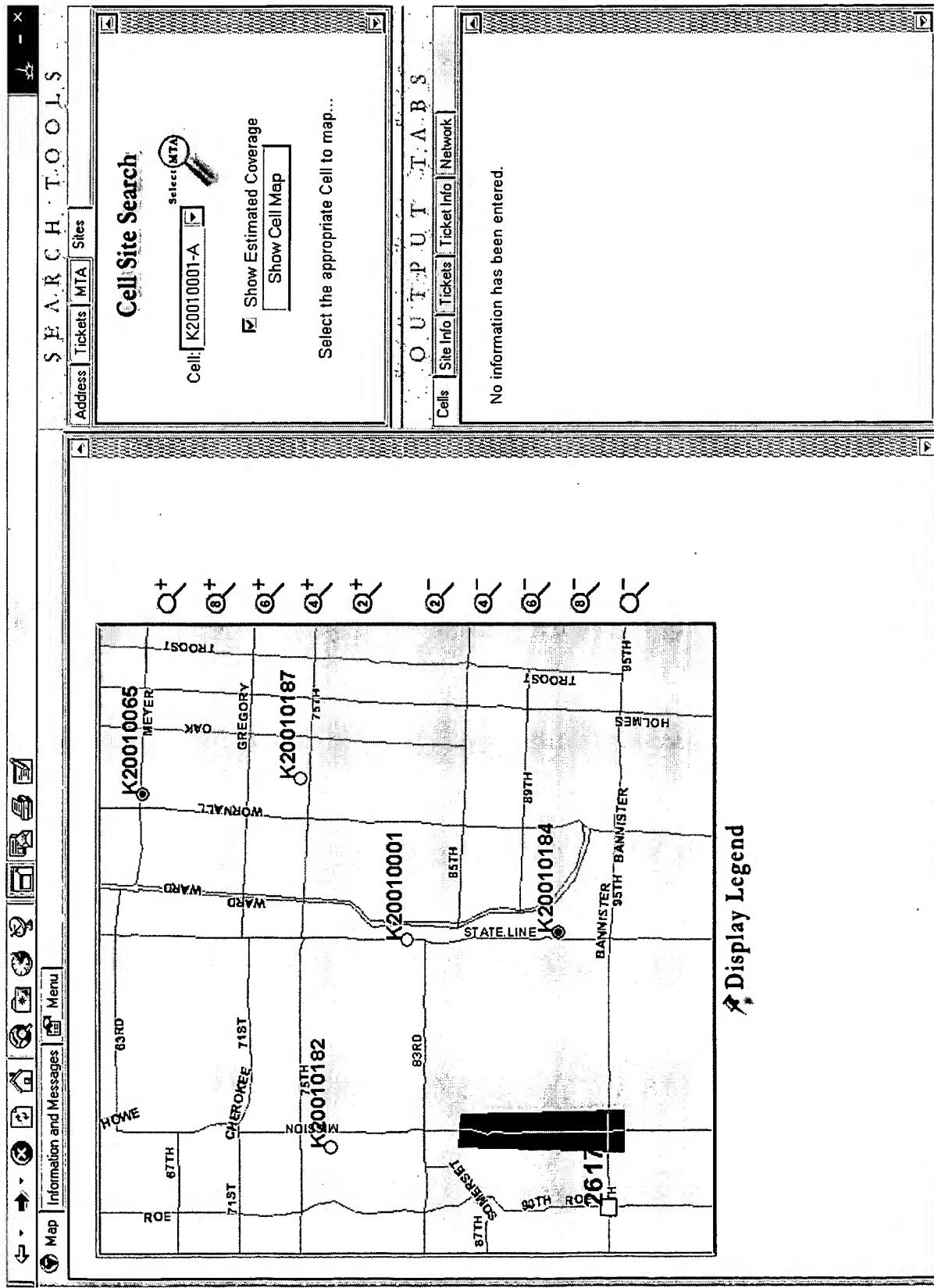


FIG. 21

APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

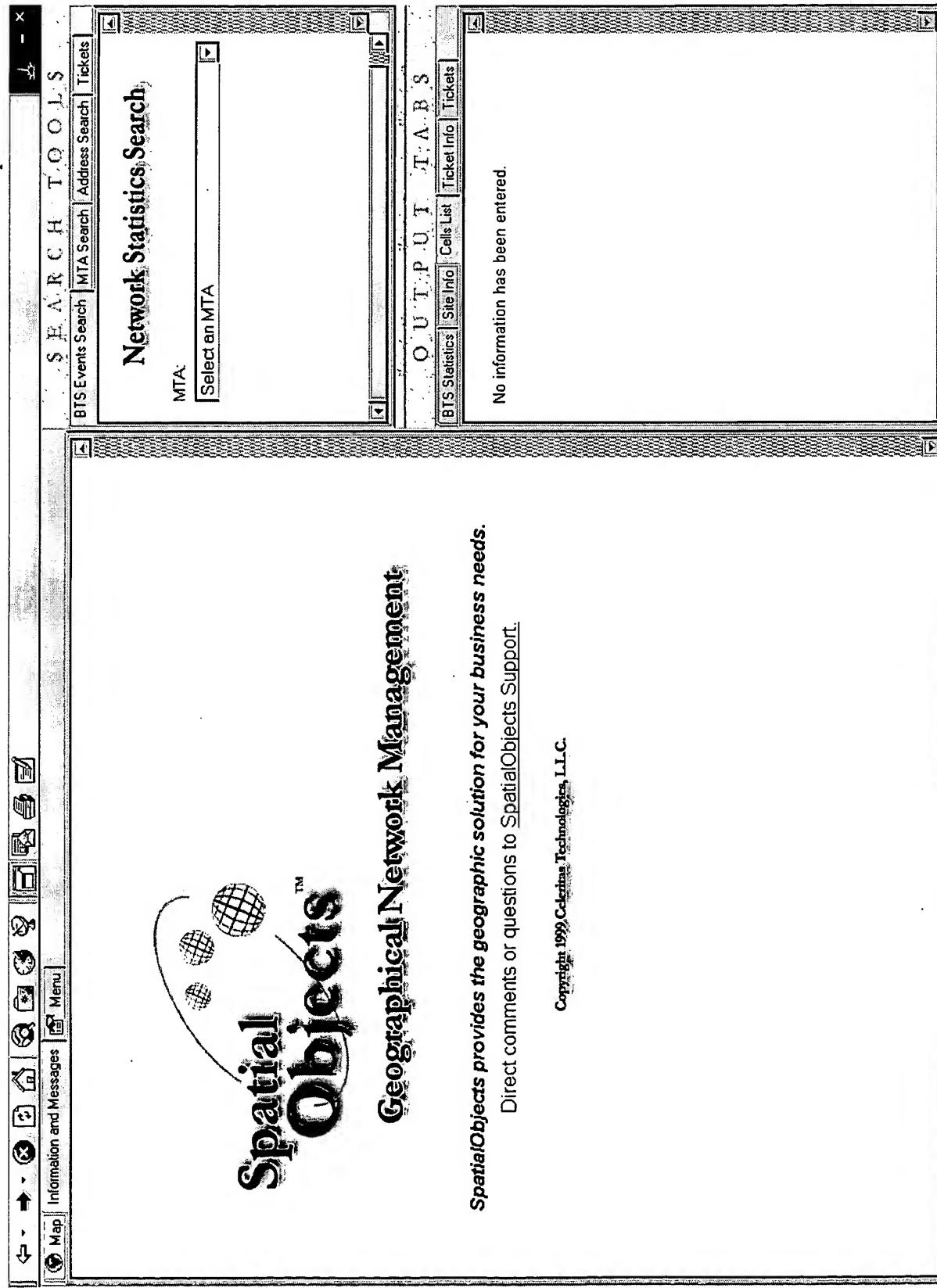


FIG. 22A

APPROVED BY	O.G. FIG.
DRAFTSMAN	CLASS SUBCLASS

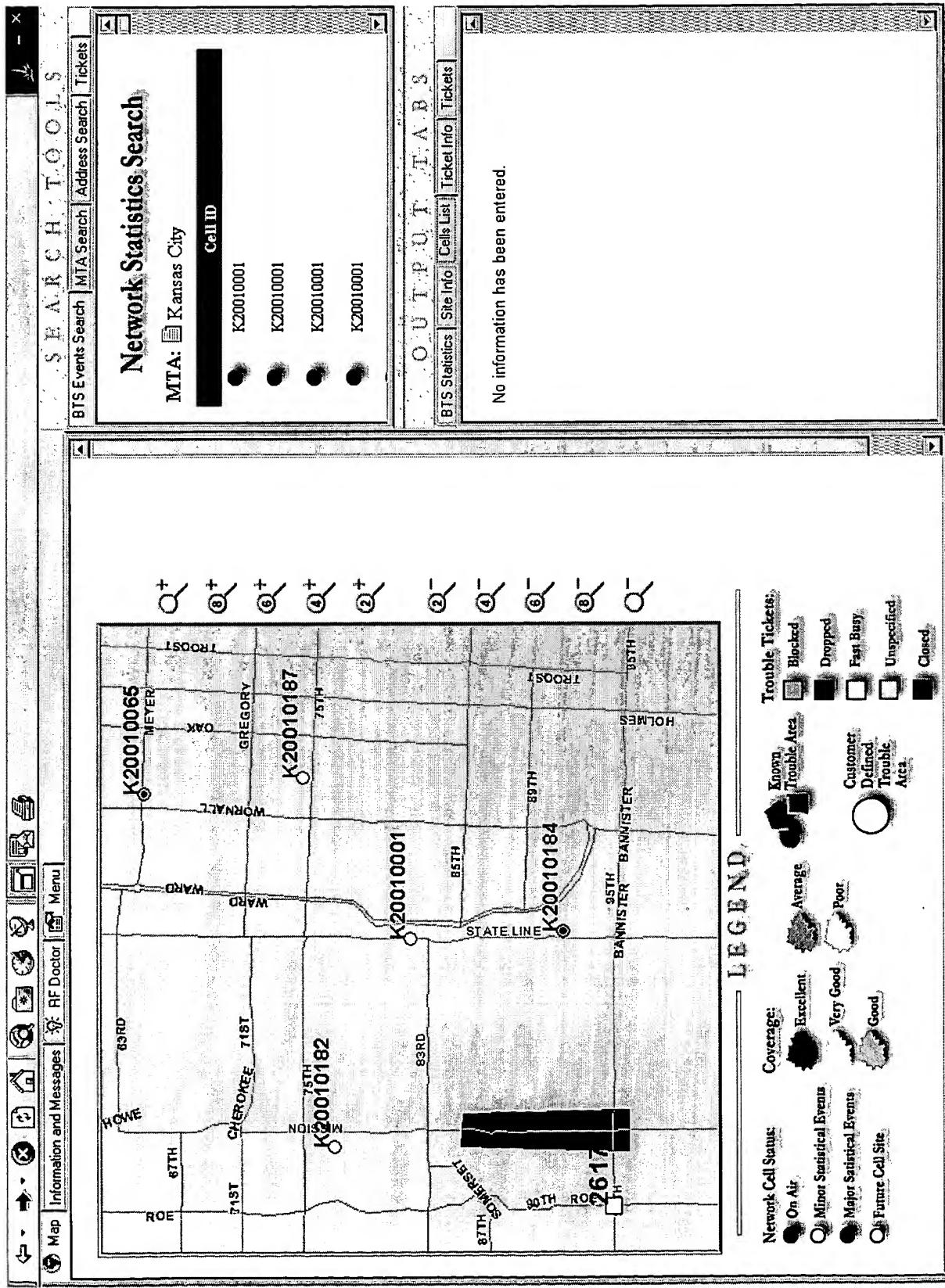


FIG. 22B

APPROVED BY	O.G. FIG.	
DRAFTSMAN	CLASS	SUBCLASS

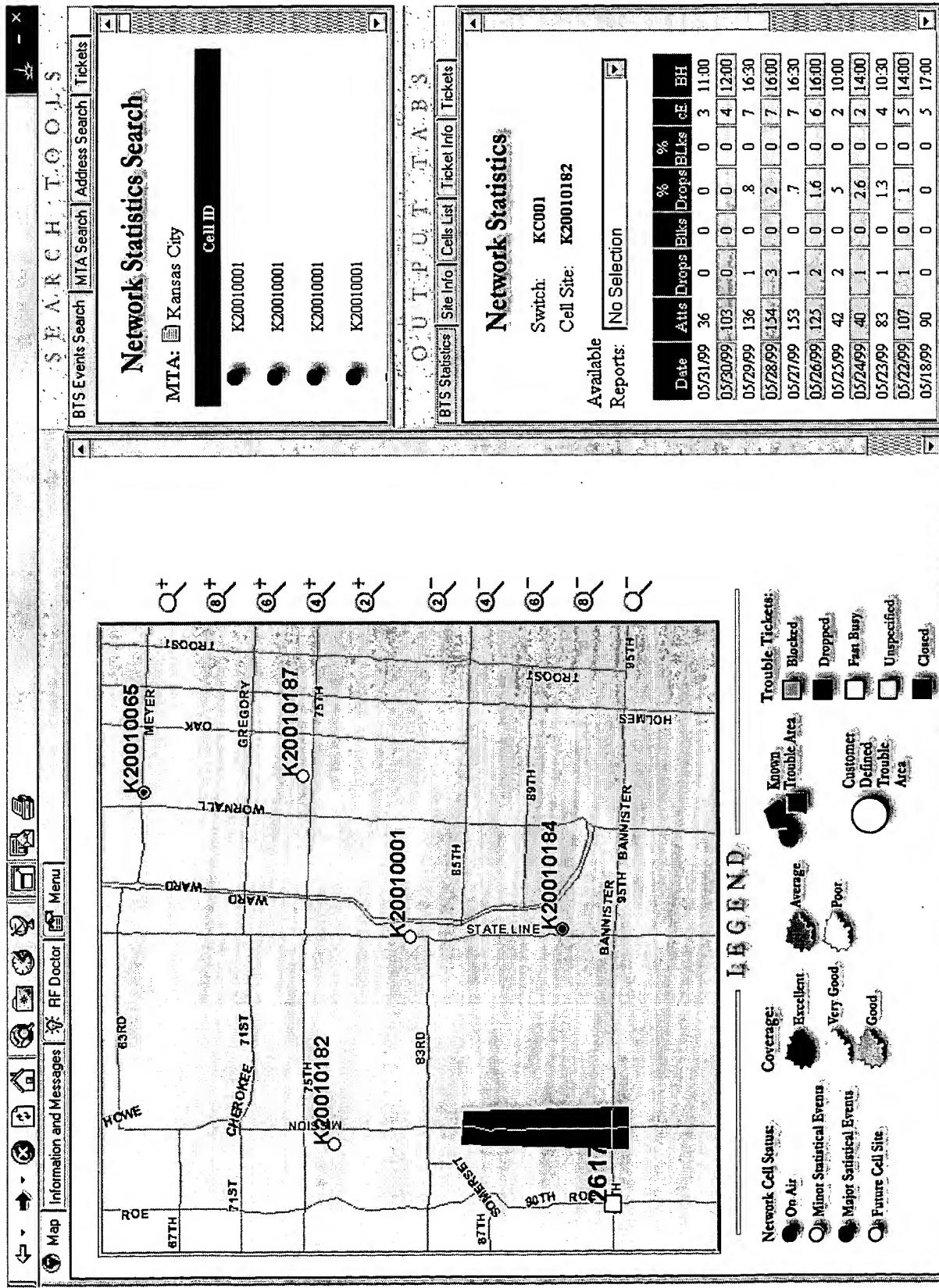


FIG. 23

APPROVED BY	O.G. FIG.
DRAFTSMAN	CLASS SUBCLASS

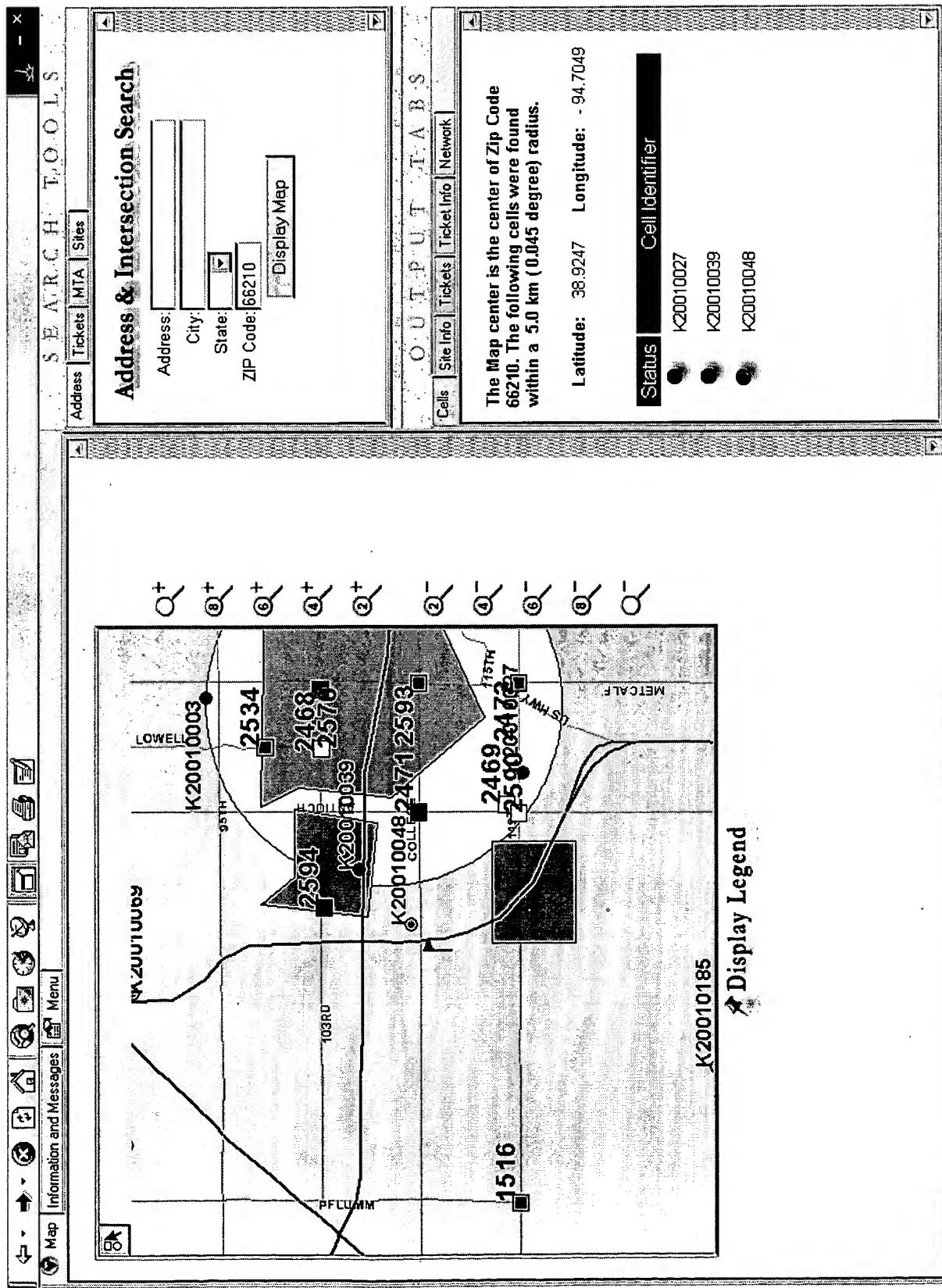


FIG. 24

APPROVED BY DRAFTSMAN	O.G. FIG. CLASS SUBCLASS
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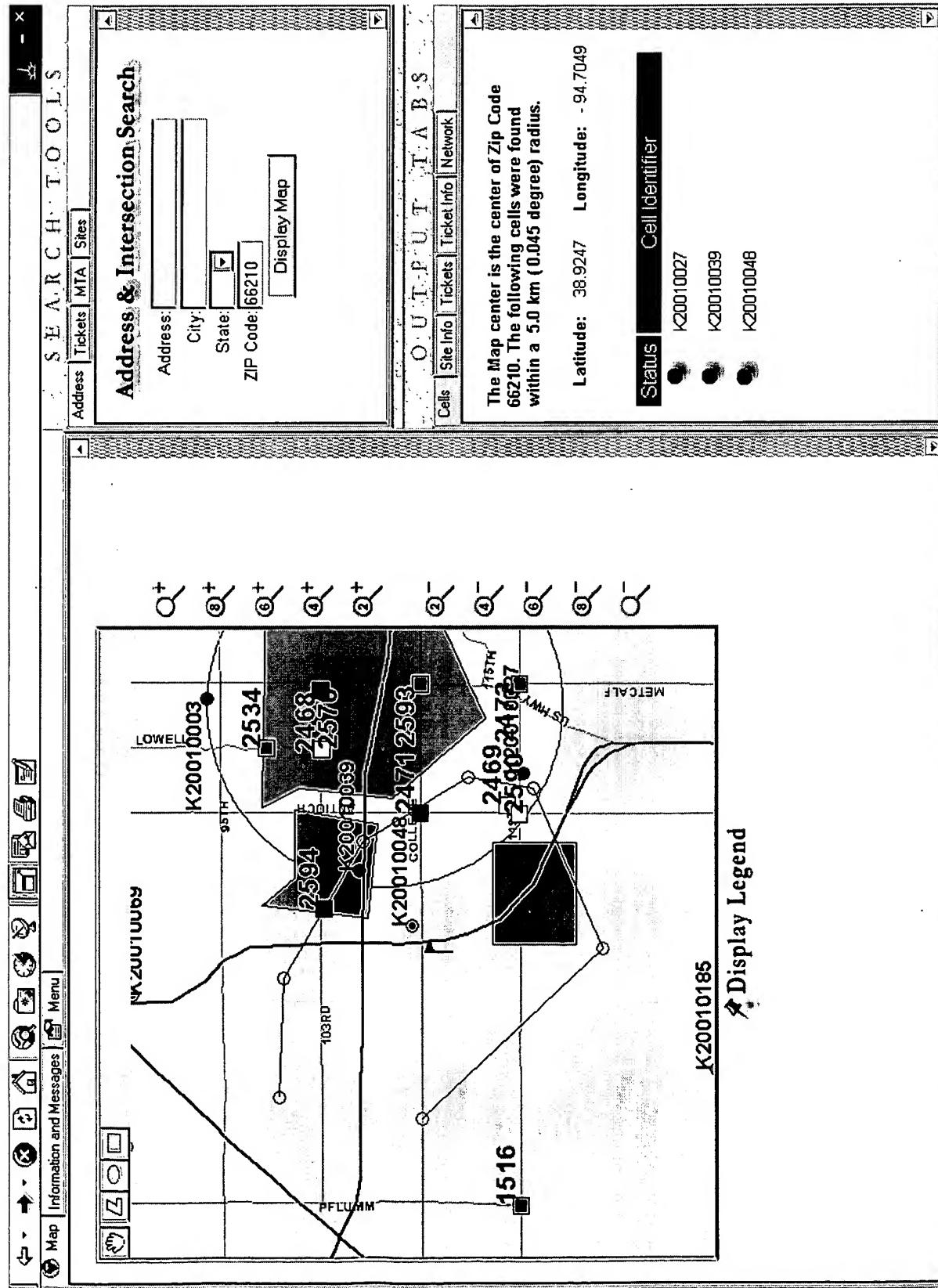


FIG. 25

APPROVED	O.G. FIG.
BY	CLASS
DRAFTSMAN	SUBCLASS

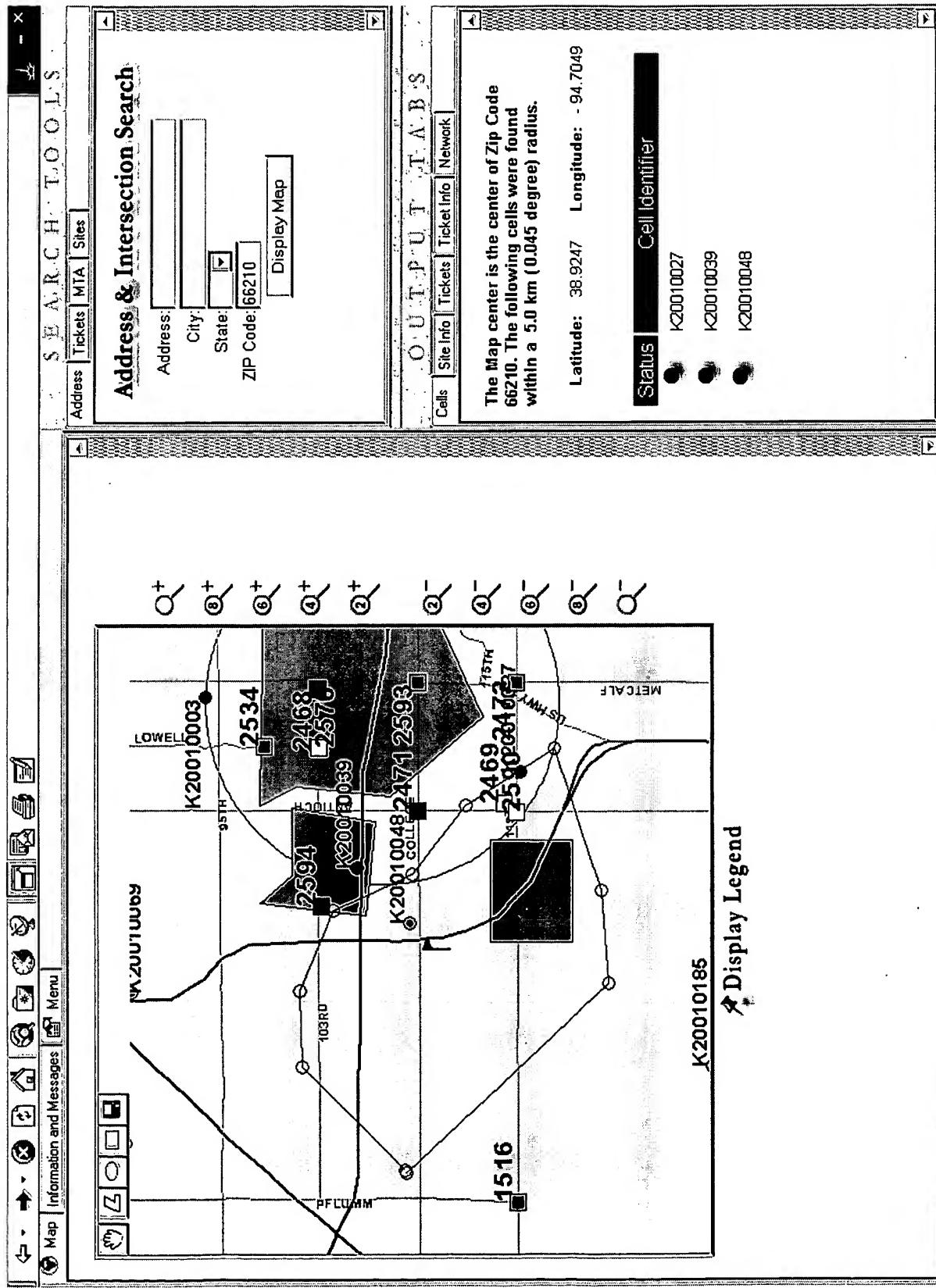


FIG. 26

APPROVED BY DRAFTSMAN	O.G. FIG. CLASS SUBCLASS
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Define Trouble Area

Trouble Area ID: 684
 Trouble Area Title: (Required)
 Start Date: 12/14/1999 (Required)
 Anticipated Date of Resolution:
 Proposed Resolution:

Address & Intersection Search

Address:
 City:
 State:
 ZIP Code: 66210

Cell List

The following cells were found within a 5.0 km (0.045 degree) radius.

Status	Cell Identifier
●	K20010027
●	K20010039
○	K20010048
●	K20010069
●	K20010183
●	K20010215
●	K20010003

To complete the definition of this trouble area, please fill in the form above and press the commit button.

Latitude: 38.9260 Longitude: -94.6946

FIG. 27

APPROVED BY DRAFTSMAN	O.G. FIG.
	CLASS SUBCLASS

SpatialObjects Trouble Ticket Entry Utility	
Ticket ID:	<input type="text" value="2692"/>
Cross Street 1:	<input type="text" value="87th and Antioch"/>
Cross Street 2:	<input type="text"/>
City:	<input type="text" value="Lenexa"/>
State:	<input type="text" value="KS"/> <input checked="" type="checkbox"/>
Zip:	<input type="text"/>
Ticket Type:	<input type="checkbox"/> FAST BUSY <input checked="" type="checkbox"/>
Customer Email:	<input type="text" value="me@yourcomp.com"/>
<input type="button" value="Geocode Ticket"/>	
<input type="button" value="Commit Ticket"/>	
Geocode Results	
Ticket ID:	2692
Latitude:	38.963339
Longitude:	-94.78846
Coverage Attributes:	Unknown
Trouble Area Attributes:	No
Other tickets at this location?	No
Neighboring Cell Count:	1
Neighboring Ticket Count:	0
Search Radius:	5

FIG. 28

APPROVED BY	O.G. FIG.
DRAFTSMAN	CLASS SUBCLASS

SE A.R.C.H. T.Q.O.L.S

Address & Intersection Search

Address: []
 City: []
 State: []
 ZIP Code: [66210]

Close Trouble Tickets

To complete the closer of the trouble tickets listed below, confirm the date of closer and specify a reason for the tickets being closed. If desired, check the box labeled "Notify Customer" and the customer will be notified via their phone of their problem's resolution.

Resolution or Reason: []

Notify Client?

Ticket ID	Issue Date	Problem Type	Street 1	Street 2	City	State	Zip
1516	15-APR-99	BLOCKED	119TH	PFLUMM	OVERLAND PARK	KS	
2534	26-MAY-99	BLOCKED	9900 LOWELL		OVERLAND PARK	RS	

1516 : BLOCKED
 2468 : DROPPED
 2469 : FAST BUSY
 2471 : DROPPED
 2472 : UNSPECIFIED
 2534 : BLOCKED
 2570 : FAST BUSY
 2590 : FAST BUSY
 2593 : UNSPECIFIED
 2594 : DROPPED

To close ALL checked tickets above, press the Close Tickets button below.

FIG. 29

APPROVED	U.G. RIA.
BY	
DRAFTSMAN	CLASS SUBCLASS

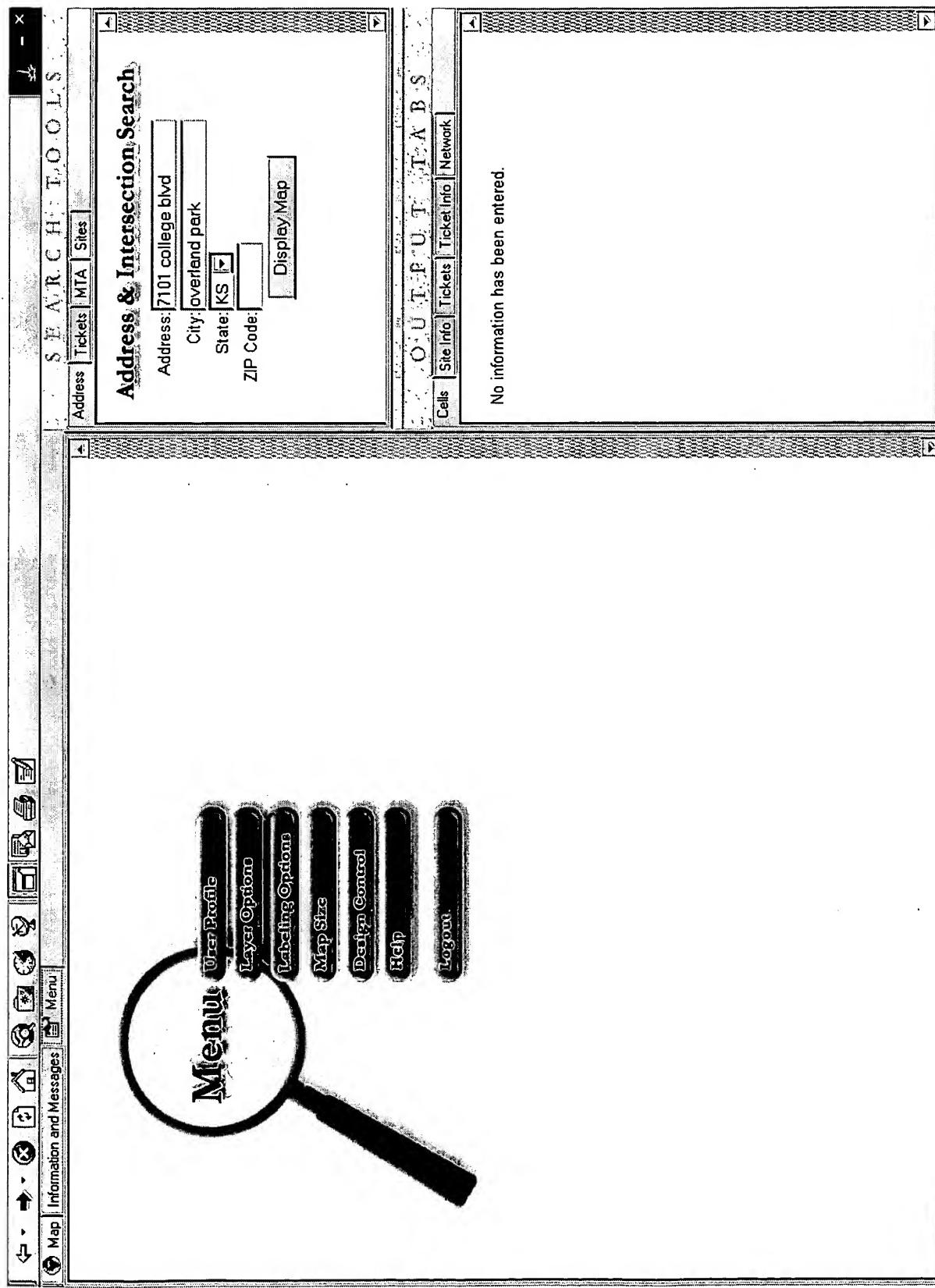


FIG. 30

APPROVED	O.G. FIG.
BY	CLASS
DRAFTSMAN	SUBCLASS

 Map
  Information and Messages
  Menu

Select the layers and layer options you wish to enable or disable for your user profile.

<input type="checkbox"/> Enable	<input checked="" type="checkbox"/> Disable
Layer	
<input checked="" type="checkbox"/>	Customer Defined Trouble Areas
<input checked="" type="checkbox"/>	Engineering Defined Trouble Areas
<input checked="" type="checkbox"/>	Engineering Designed Coverage
<input checked="" type="checkbox"/>	Future Cell Sites
<input checked="" type="checkbox"/>	Lakes and Rivers
<input checked="" type="checkbox"/>	Major Trading Areas (MTAs)
<input checked="" type="checkbox"/>	Marketing Defined Coverage
<input checked="" type="checkbox"/>	Network BTS (Cell/Sector) Statistics
<input checked="" type="checkbox"/>	Parks and Recreational Areas
<input checked="" type="checkbox"/>	Trouble Tickets

 BTS Events Search
  MTA Search
  Address Search

 BTS Statistics
  Site Info
  Cells List
  Ticket Info
  Tickets

Address & Intersection Search

Address:
 City:
 State:
 ZIP Code:

No information has been entered.

Return to Menu

FIG. 31

APPROVED BY	O.G. FIG.
DRAFTSMAN	CLASS SUBCLASS

Setting

Setting	Value	Description
User Classification:	<input checked="" type="checkbox"/> Customer Service	Select the user classification that best fits your role while using SpatialObjects. This will govern the options available to you and the reaction of the tool to certain requests.
Search/Display Distance:	<input type="text"/> 5 (km)	This defines the search and display distance (in kilometers) used for all map generation, when not executing a zoom operation.
Legend Option:	<input type="checkbox"/> On Page	This setting governs how the legend will be presented. The " Drill Down " setting will save you time if accessing SpatialObjects over low speed network connections.

Return to Menu

S E A R C H T OOLS

Address Tickets MTA Sites

Address: 7101 college blvd
City: overland park
State: KS
ZIP Code:

Address & Intersection Search

Address: 7101 college blvd
City: overland park
State: KS
ZIP Code:

Display Map

No information has been entered.

FIG. 32

APPROVED BY	O.G. FIG.
DRAFTSMAN	CLASS SUBCLASS

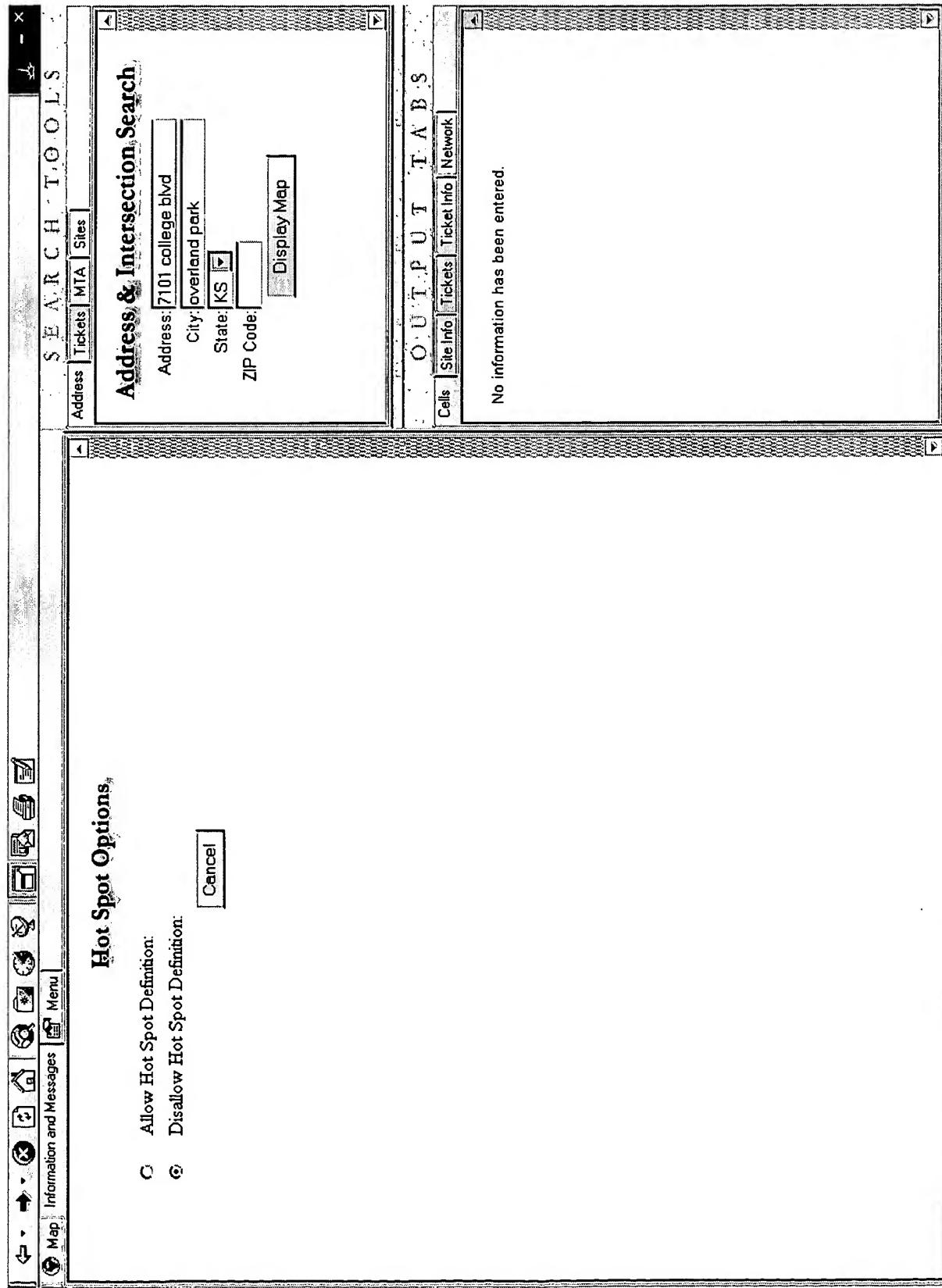


FIG. 33

APPROVED	O.G. H.G.
BY	CLASS
DRAFTSMAN	SUBCLASS

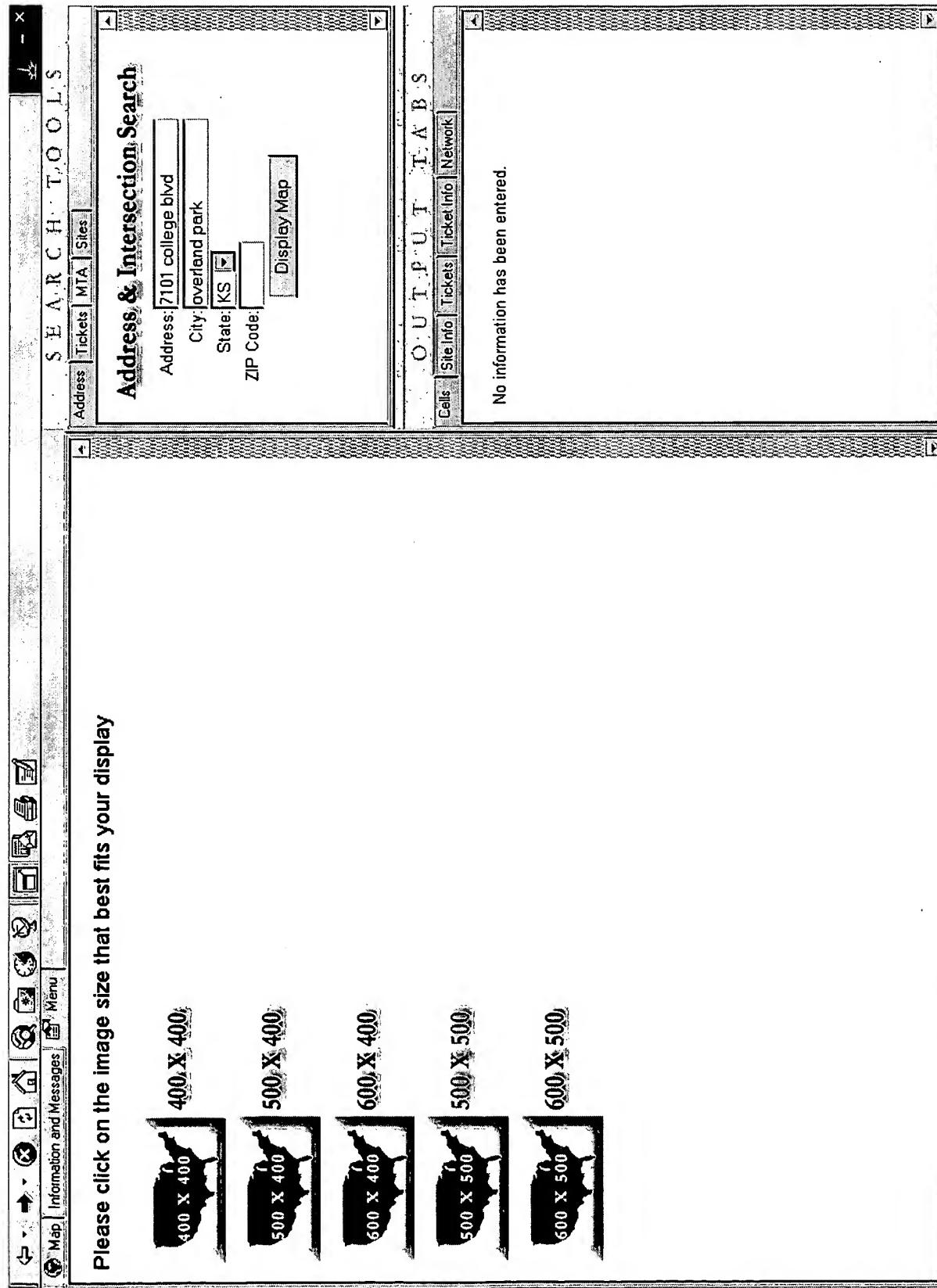
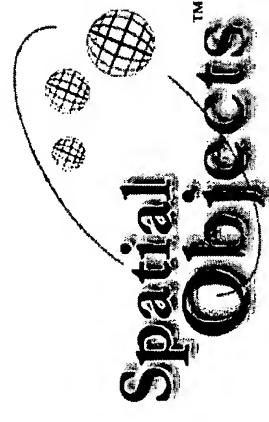


FIG. 34

APPROVED BY	O.G. FIG.	
DRAFTSMAN	CLASS	SUBCLASS



Geographical Network Management

Version 1.1

Login:

Password:

FIG. 35

APPROVED BY DRAFTSMAN	O.G. FIG. CLASS SUBCLASS
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Information and Messages

Map

Information and Messages

Menu

S E A R C H T OOLS

BTS Events Search MTA Search Address Search Tickets

Address & Intersection Search

Address: _____

City: _____

State: _____

ZIP Code: _____

Display Map

Select the Network Statistic display options you wish to enable or disable for your user profile.

Enable Disable	Network Statistics	Warning Level	Critical Level	Description
<input type="checkbox"/> Attempts:	500	950	500	Alert if over this number of attempts.
<input type="checkbox"/> Drops:	100	500	500	Alert if Drops are greater than or equal to this value.
<input type="checkbox"/> Blocks:	10	250	250	Alert if Blocks are greater than or equal to this value.
<input type="checkbox"/> % Drops:	2	4.5	%	Alert if %Drops are greater than or equal to this percentage value.
<input checked="" type="checkbox"/> % Blocks:	5	7	%	Alert if %Blocks are greater than or equal to this percentage value.
<input type="checkbox"/> Channel Erlangs:	65	17		Alert if Channel Erlangs are greater than or equal to this value.

Logical Operator: AND OR

No information has been entered.

Select AND to cause all selected conditions to be ANDed together when analyzing the Network statistics layer. Select OR to cause the selected conditions to be ORed.

Return to Menu

FIG. 36

APPROVED	O.G. FIG.
BY	CLASS
DRAFTSMAN	SUBCLASS

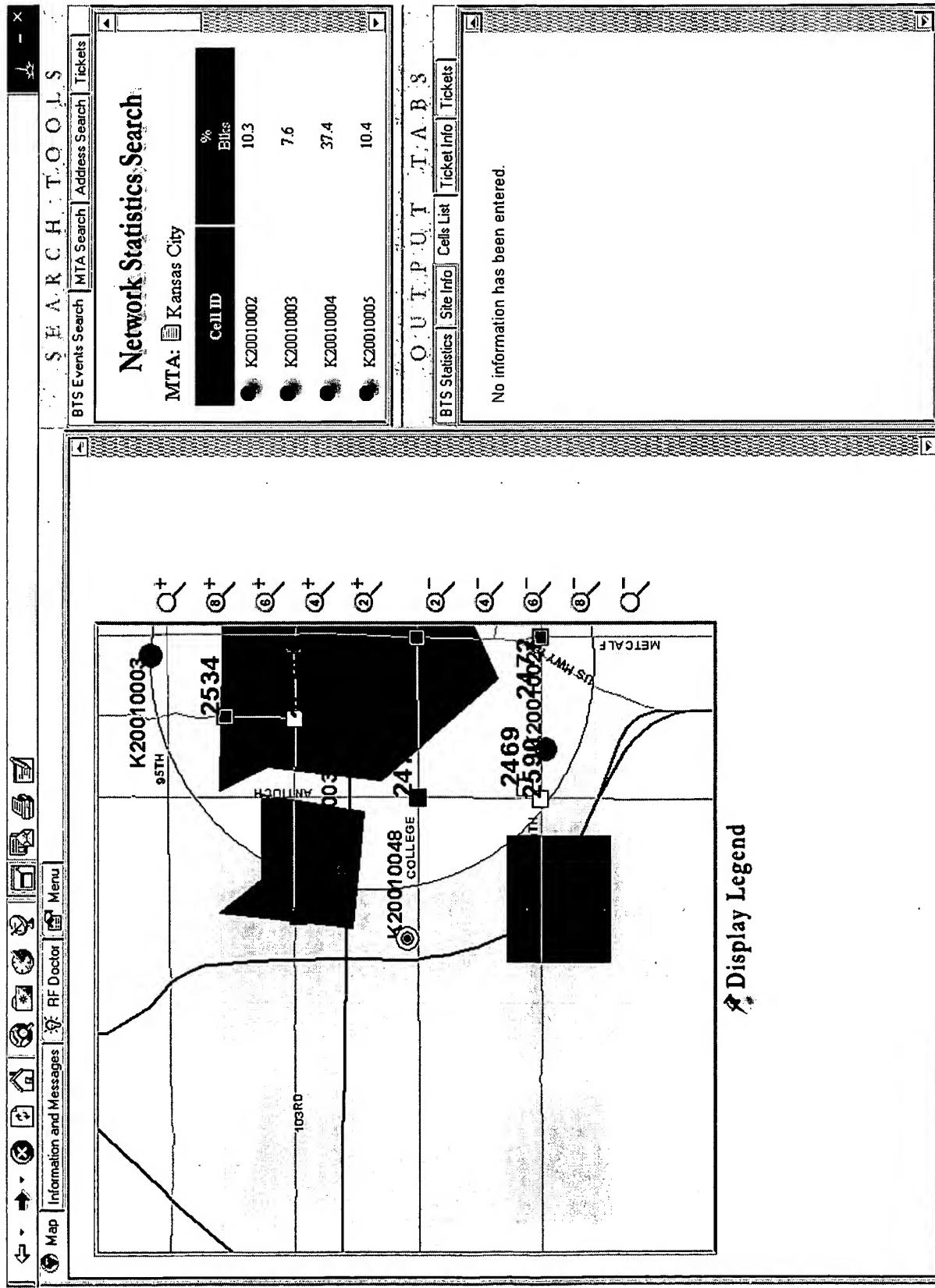


FIG. 37

APPROVED BY	O.G. FIG.
DRAFTSMAN	CLASS SUBCLASS

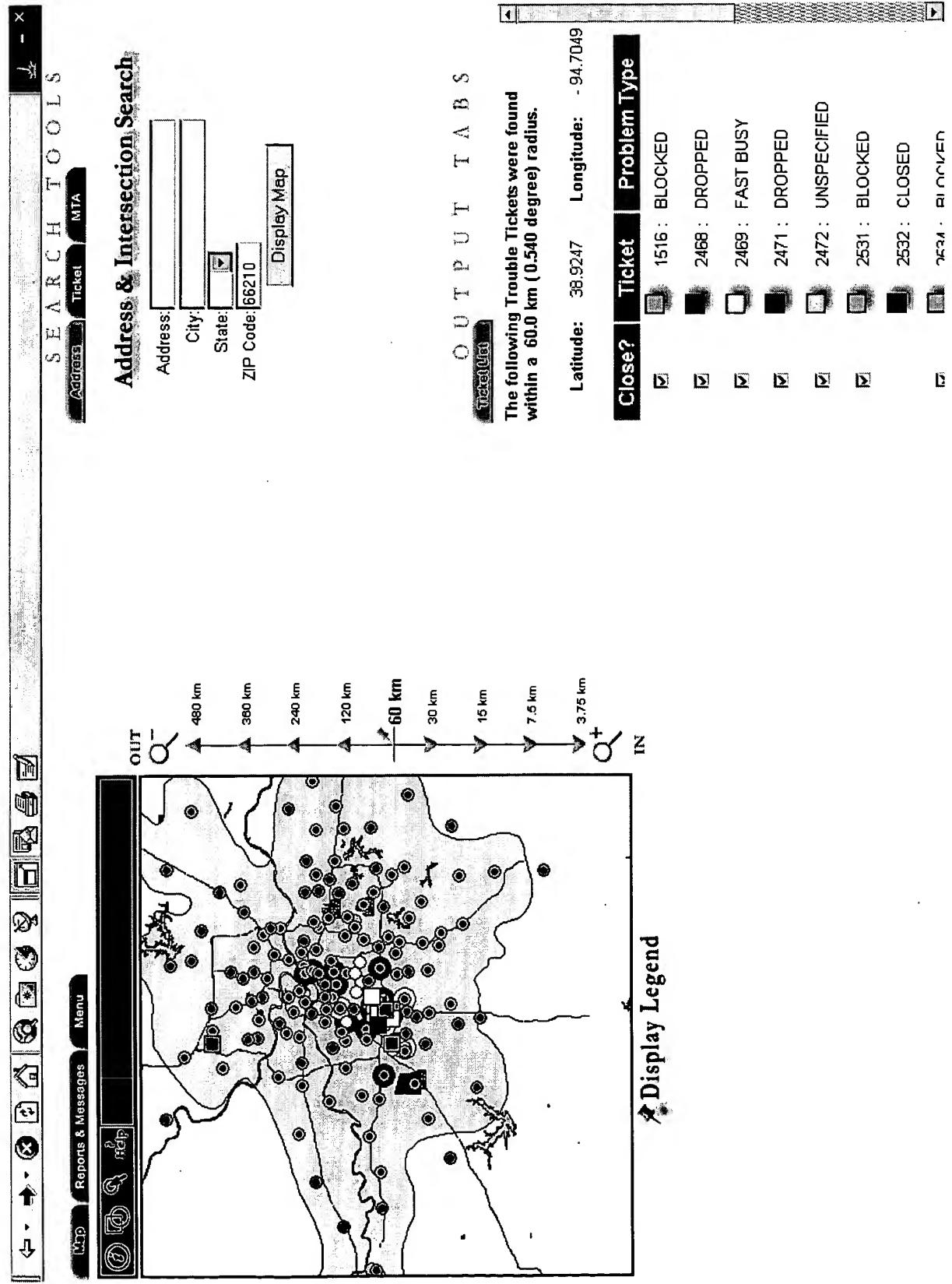


FIG. 38

REMOVED	O.G. FIG.
BY	CLASS
DRAFTSMAN	SUBCLASS

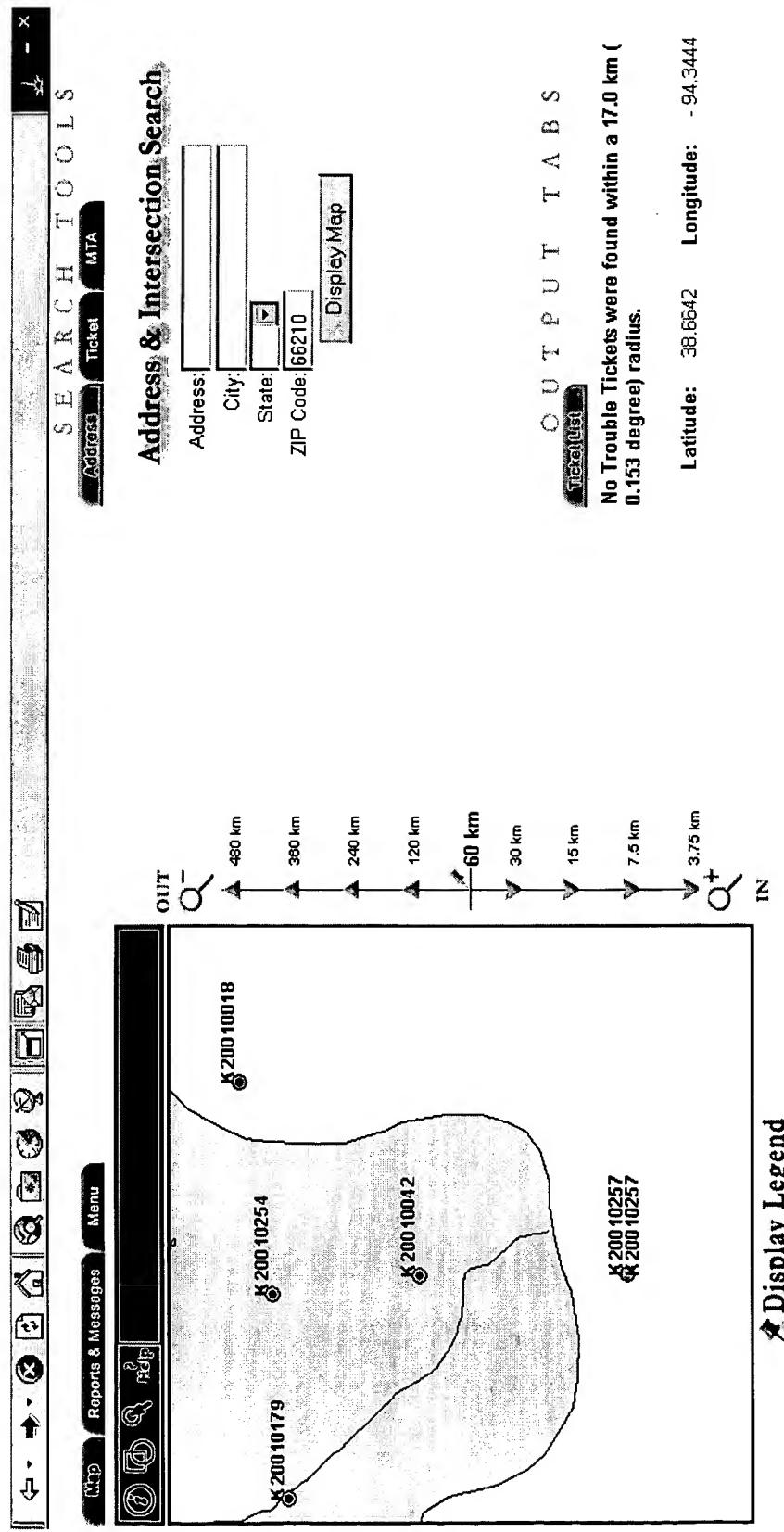


FIG. 39

APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

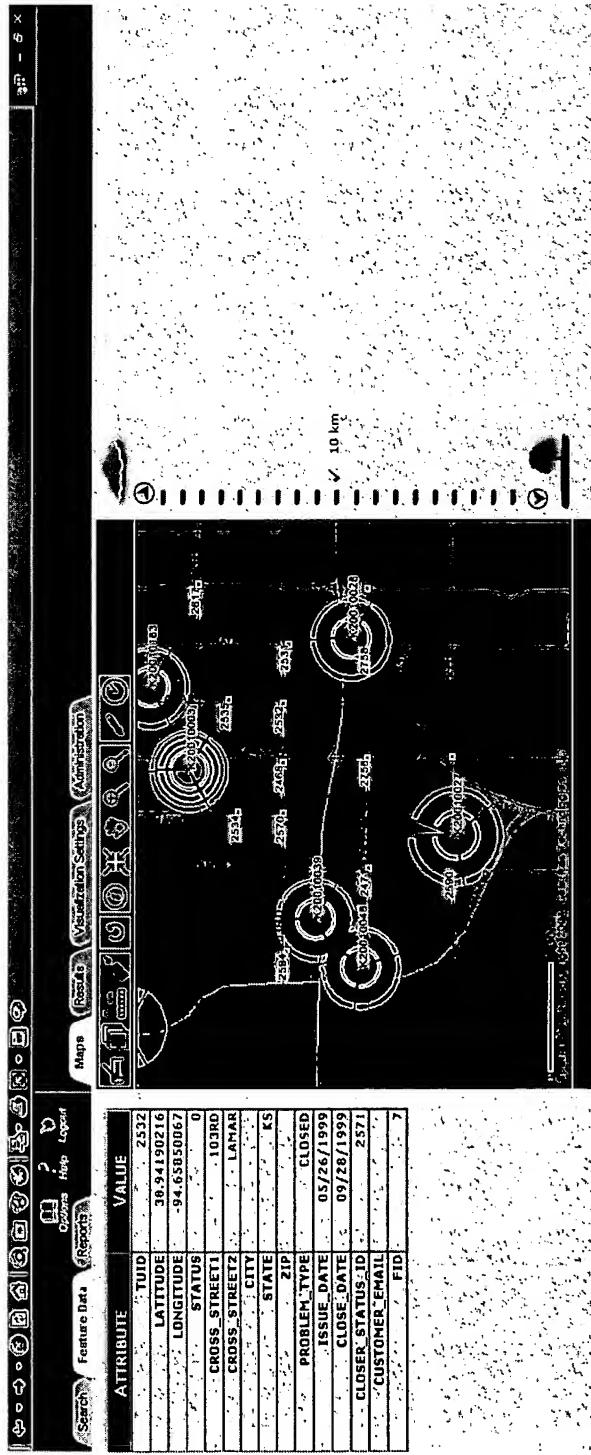


FIG. 40

APPROVED BY	O.G. FIG.
DRAFTSMAN	CLASS SUBCLASS

File Edit View Insert Options Help Logout

Search Feature Data Reports Maps Results Visualization Settings Administration

Address: [] **City:** [] **State:** [] **ZIP Code:** []

Market/MTA Search: Select an MTA []

OR

Trading Area Search: Select an MTA first []

Display Map

Performance Metrics

Search Filters

Cell Sectors

Filters and Performance Metrics for Cell Sites C

Busy Hour Only: Apply

Start Date: 07/01/2001 End Date: 07/08/2001 Remove All Filters & Metric Limits

Limit Value

% BLOCKS

- Normal
- Moderate [0.21]
- Excessive [0.36]

% DROPS

- Normal
- Moderate [0.58]
- Excessive [0.89]

ERLANGS

- Normal
- Moderate [20]
- Excessive [42]

Filter Type

- % Blocking
- % Drops
- % Handoff Block
- % Handoff Drops
- % Minutes Utilization
- % Max Channel Utilization
- Erlangs
- Max Channels Busy

FIG. 41

APPROVED BY	O.G. FIG.
DRAFTSMAN	CLASS SUBCLASS

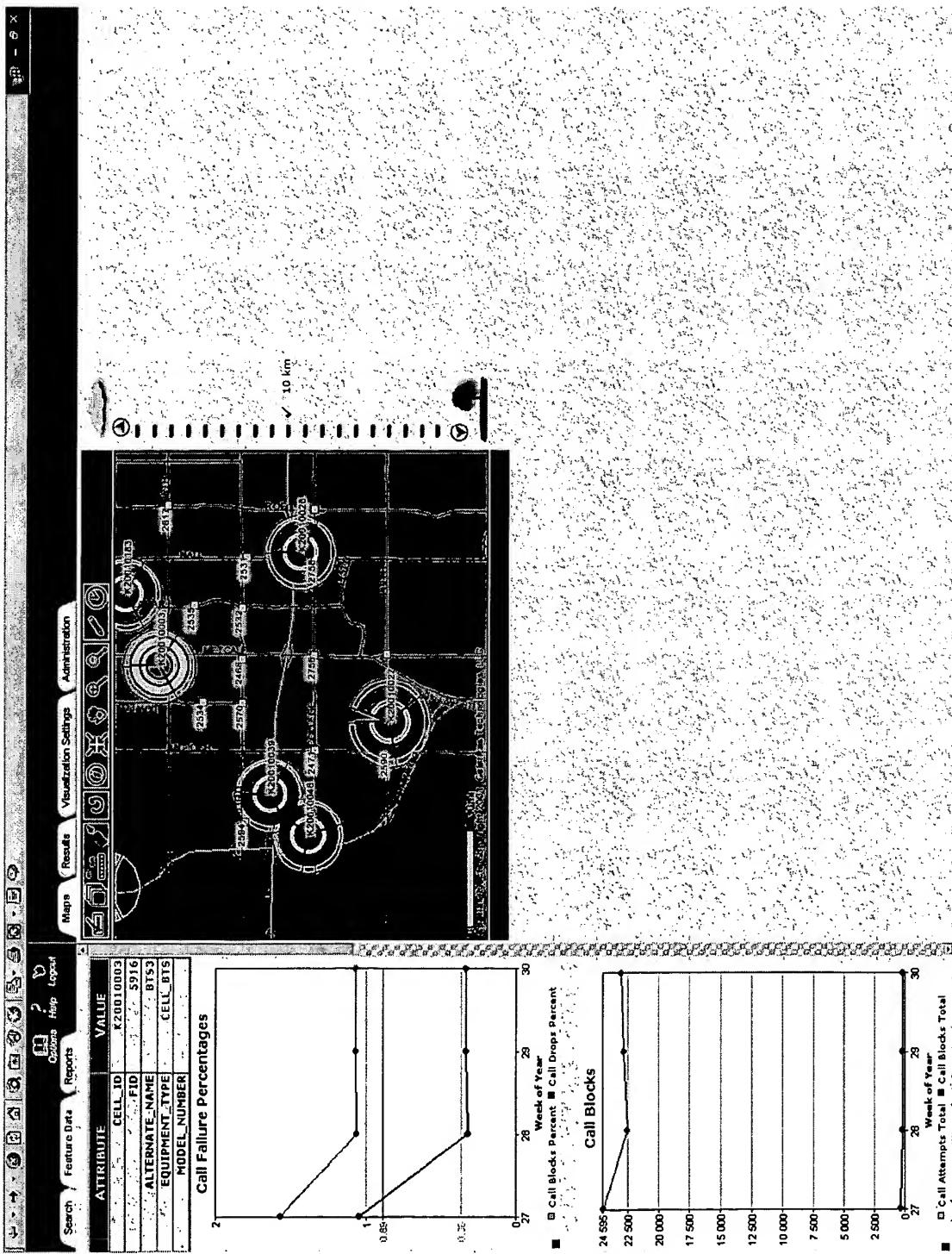


FIG. 42

APPROVED BY DRAFTSMAN	O.G. FIG.
	CLASS SUBCLASS

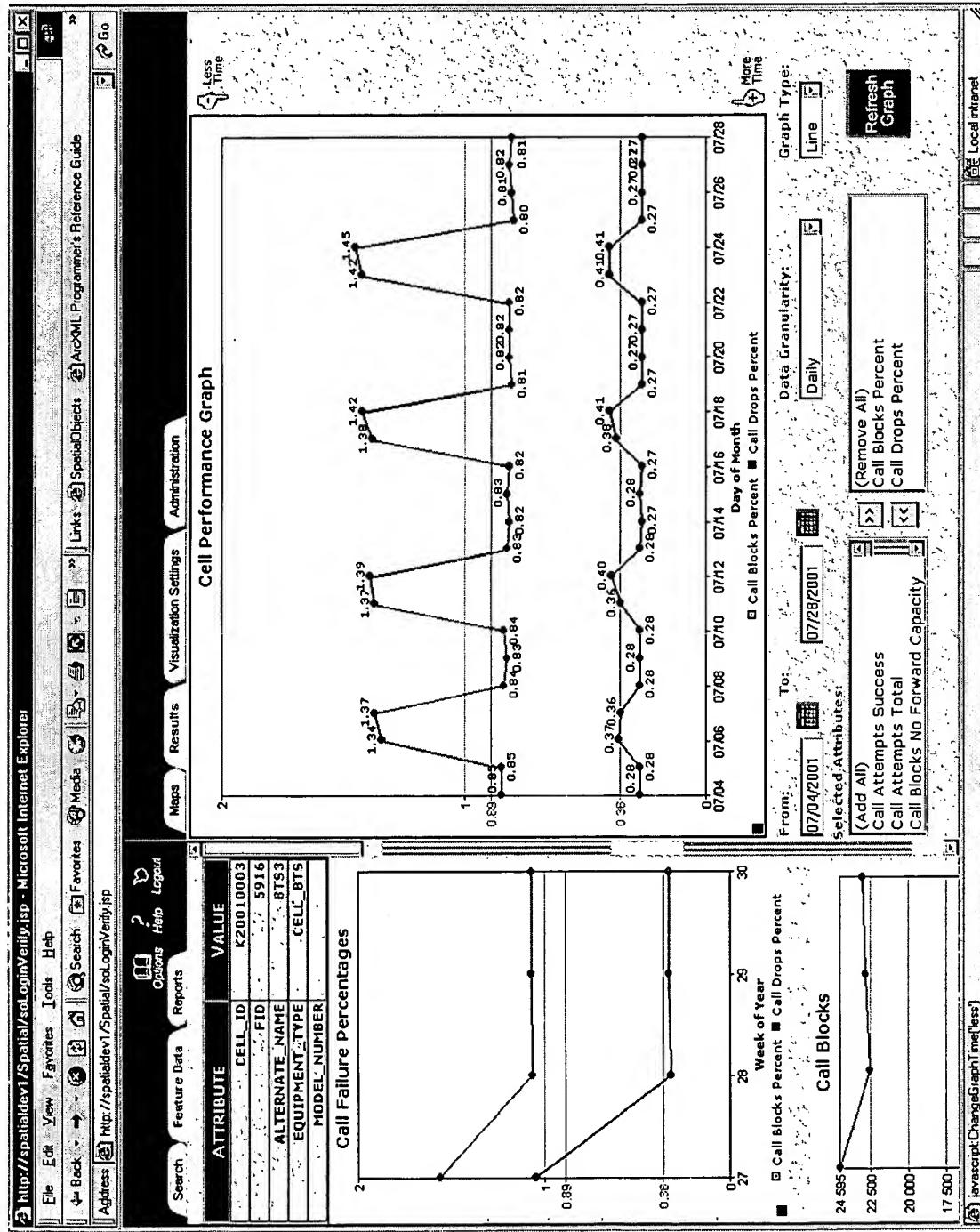


FIG. 43

APPROVED BY DRAFTSMAN	O.G. FIG. CLASS SUBCLASS
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Page - 5 x

CELL TOP 10 SUMMARY

Market: Kansas City

From: 07/01/2001 00:00:00 To: 07/07/2001 23:59:59

Cell	Call Attempts	% Call Success	Total Blocks	% Call Blocks	% Handoff Blocks	% Handoff Use	Minutes of Erlangs
K2001009 (KansasCity1-BTS134)	9,719	97.19	100.00%	0	0.00%	0	0.00% 220,378.46
KC13KC35 (KansasCity1-BTS1)	7,865	7,855	100.00%	0	0.00%	0	0.00% 215,110.56
K2001012 (KansasCity1-BTS122)	7,772	7,772	100.00%	0	0.00%	0	0.00% 154,757.63
K2001020 (KansasCity1-BTS125)	7,679	7,679	100.00%	0	0.00%	0	0.00% 236,398.50
KC13KC38 (KansasCity1-BTS2)	7,589	7,589	100.00%	0	0.00%	0	0.00% 247,507.95
K2001005 (KansasCity1-BTS25)	7,541	7,541	100.00%	0	0.00%	0	0.00% 156,040.64
K2001006 (KansasCity1-BTS115)	7,226	7,226	100.00%	0	0.00%	0	0.00% 150,681.25
K2001008 (KansasCity1-BTS1)	6,328	6,328	100.00%	0	0.00%	0	0.00% 219,322.47
K2001017 (KansasCity1-BTS121)	6,150	6,150	100.00%	0	0.00%	0	0.00% 149,556.45
K2001025 (KansasCity1-BTS231)	5,954	5,954	100.00%	0	0.00%	0	0.00% 177,365.40
Top 10 Call Success Percent							
K20010179 (KansasCity1-BTS130)	66,232	65,209	98.46%	2,048	3.08%	770	1.16% 0.30%
K2001003 (KansasCity1-BTS53)	64,778	62,675	95.75%	1,894	2.92%	1,855	2.65% 0.01%
K2001003 (KansasCity1-BTS3)	24,595	24,160	98.23%	642	2.61%	365	1.57% 355,954.01
K20010017 (KansasCity1-BTS30)	63,568	62,007	97.55%	1,380	2.14%	1,380	2.14% 352,917.86
K2001004 (KansasCity1-BTS4)	46,129	45,241	98.29%	700	1.52%	646	1.40% 35,693.90
K2001005 (KansasCity1-BTS2)	51,409	49,885	98.37%	677	1.34%	682	1.31% 0.02%
K20010024 (KansasCity1-BTS132)	81,423	79,999	98.29%	1,073	1.32%	1,073	1.32% 365,679.19
K20010024 (KansasCity1-BTS127)	80,777	78,903	98.29%	1,026	1.28%	1,026	1.28% 0.00% 38,201.43
K20010092 (KansasCity1-BTS110)	82,874	81,473	98.31%	1,053	1.27%	1,053	1.27% 45,631.62
K20010234 (KansasCity1-BTS36)	36,906	36,380	98.57%	467	1.27%	426	1.15% 71,705.05
Top 10 Total Blocks Percent							
K20010053 (KansasCity1-BTS53)	64,778	62,675	95.75%	1,894	2.92%	1,855	2.65% 0.01%
K20010017 (KansasCity1-BTS30)	63,568	62,007	97.55%	1,380	2.14%	1,380	2.14% 355,954.01
K2001003 (KansasCity1-BTS3)	24,595	24,160	98.23%	642	2.61%	365	1.57% 352,917.86
K2001004 (KansasCity1-BTS4)	46,029	45,241	98.29%	700	1.52%	646	1.40% 0.02%
K20010030 (KansasCity1-BTS132)	81,429	79,999	98.24%	1,073	1.32%	1,073	1.32% 365,679.19
K2001005 (KansasCity1-BTS2)	50,009	49,595	98.37%	677	1.34%	682	1.31% 0.00% 45,631.62
K20010024 (KansasCity1-BTS127)	80,177	78,903	98.29%	1,026	1.28%	1,026	1.28% 0.00% 38,201.43
K20010092 (KansasCity1-BTS110)	82,874	81,473	98.31%	1,053	1.27%	1,053	1.27% 45,631.62
K20010192 (KansasCity1-BTS140)	48,349	48,863	98.42%	524	1.26%	624	1.26% 0.00% 75,650.59
K20010021 (KansasCity1-BTS126)	83,329	87,847	98.34%	1,113	1.25%	1,113	1.25% 0.00% 75,002.36
Top 10 Handoff Blocks Percent							
K20010179 (KansasCity1-BTS130)	66,232	65,209	98.46%	2,048	3.09%	770	1.16% 0.30%
K2001003 (KansasCity1-BTS3)	24,595	24,160	98.23%	642	2.61%	365	1.57% 0.01%
K2001008 (KansasCity1-BTS109)	17,673	17,608	99.63%	197	1.11%	57	0.32% 140
K2001004 (KansasCity1-BTS4)	46,129	45,241	98.29%	700	1.52%	646	1.40% 0.02%
K20010053 (KansasCity1-BTS53)	64,778	62,675	96.75%	1,894	2.92%	1,855	2.66% 355,954.01
K20010234 (KansasCity1-BTS36)	36,906	36,380	98.57%	467	1.27%	426	1.15% 71,705.05
K20010129 (KansasCity1-BTS120)	31,764	31,377	98.78%	316	0.98%	291	0.92% 0.01% 49,744.72

FIG. 44

APPROVED BY DRAFTSMAN	O.G. FIG.	
	CLASS	SUBCLASS

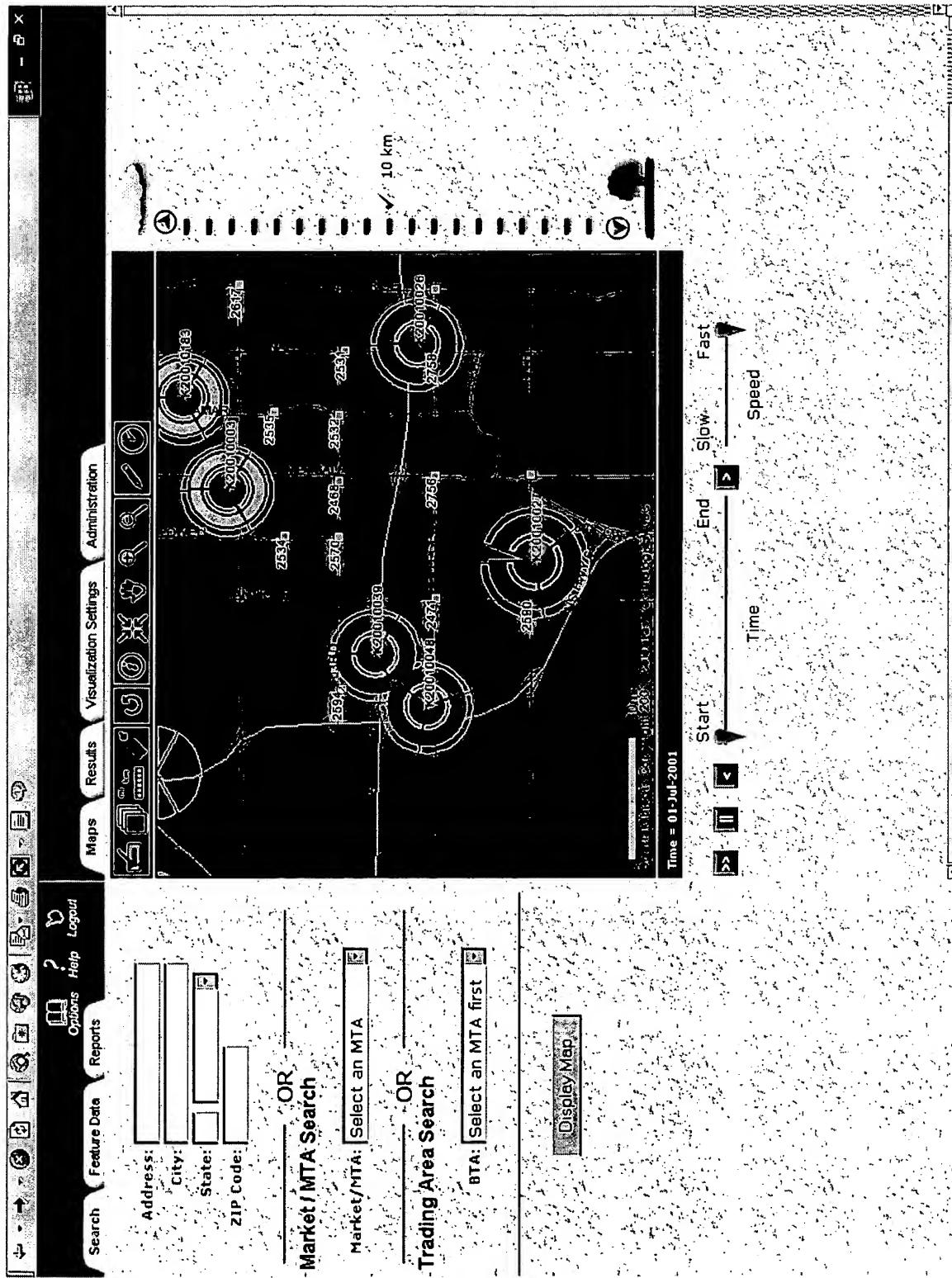


FIG. 45A

APPROVED BY DRAFTSMAN	O.G. FIG.	
	CLASS	SUBCLASS

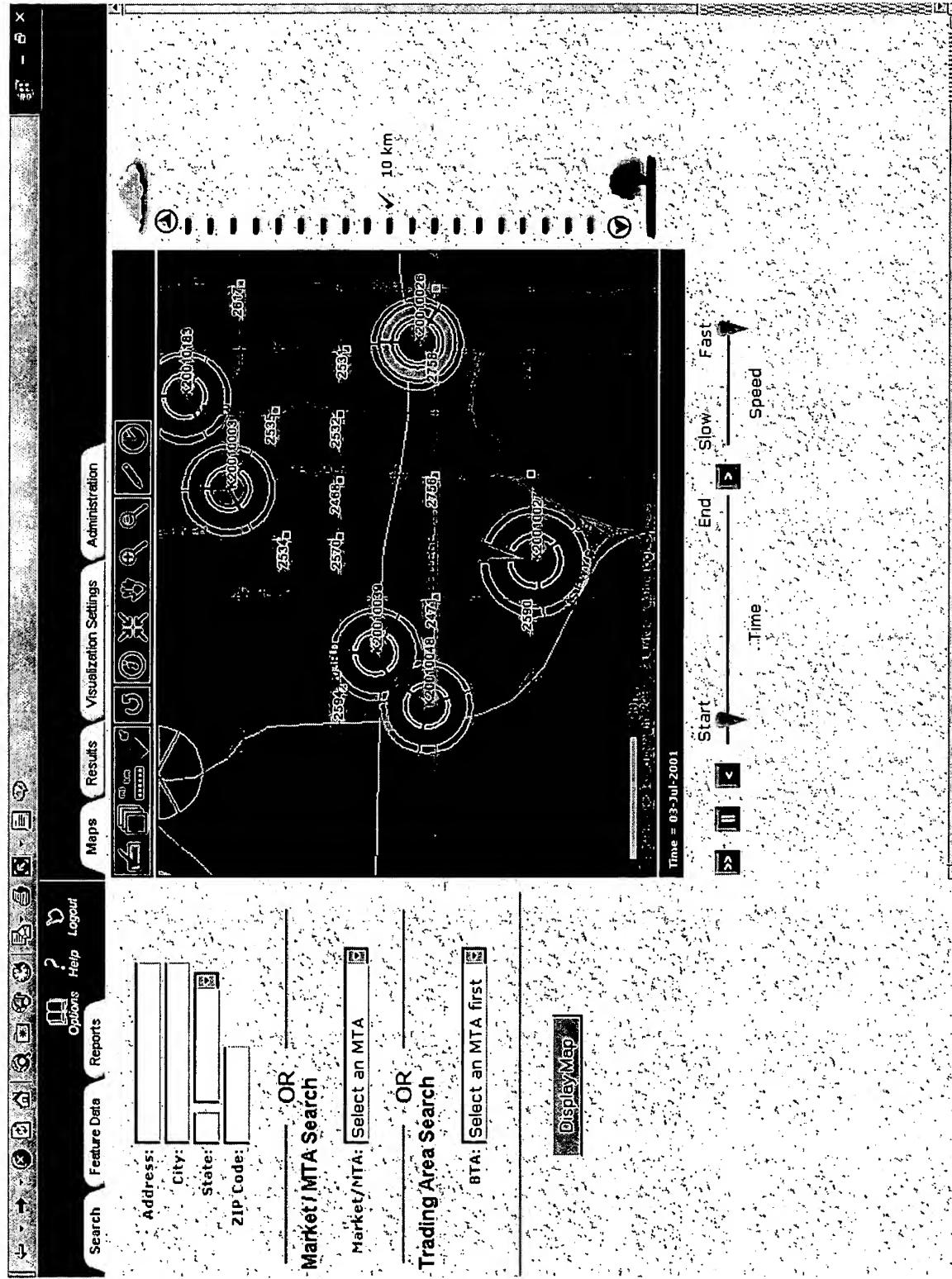


FIG. 45B